

# 2022 Spring Flood Outlook

U.S. Army Corps of Engineers - St. Louis District  
Flood Preparedness Virtual Meeting #1  
February 17, 2022

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Paducah, KY

NWS St. Louis



## Bottom Line Up Front:

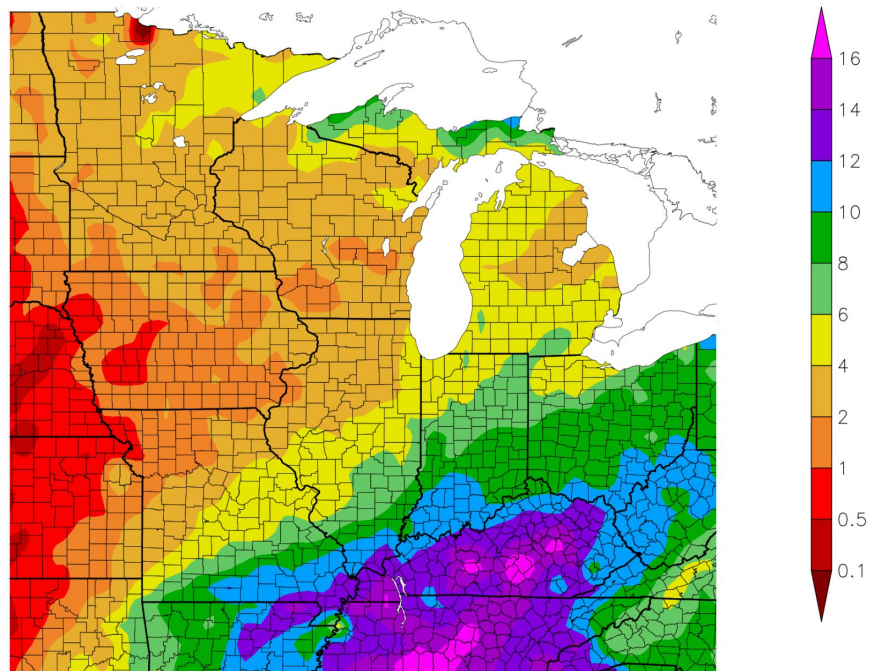
- Mississippi River: Minor flooding likely between Hannibal and Alton and from Chester through Cape Girardeau, but not likely upstream of Hannibal.
- Missouri River: Flooding not likely at any forecast point.
- Illinois River: Minor flooding likely by early May.
- Local tributaries: Near to below average flood risk, with flooding unlikely in most locations.

# Factors we look at for spring flooding:

- Recent precipitation in major river basins
- Snowpack in major river basins
- Soil moisture in area basins
- Current flow in area rivers

# Spring Flood Outlook 2022

Precipitation (in)  
11/19/2021 – 2/16/2022



Generated 2/17/2022 at HPRCC using provisional data.

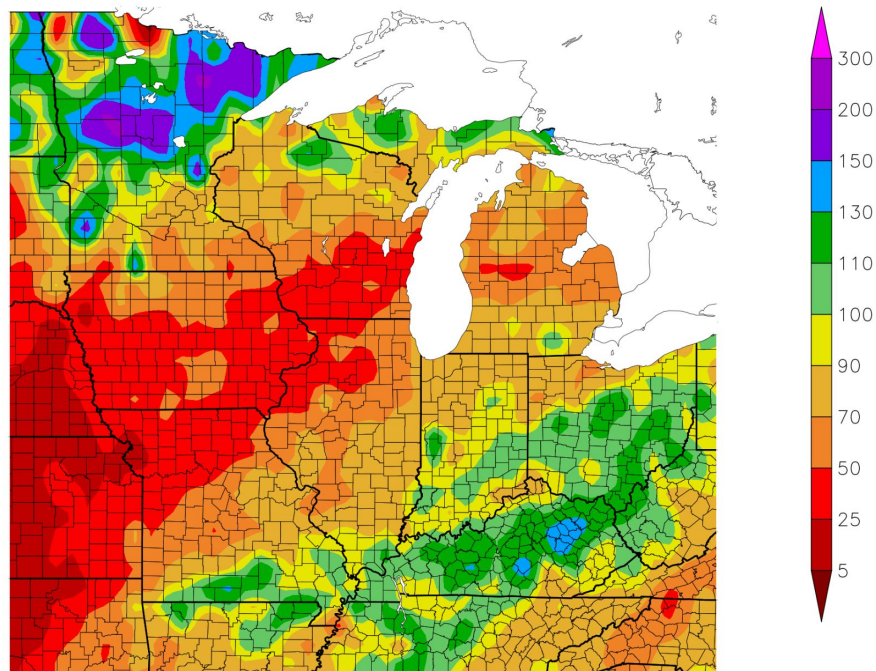
NOAA Regional Climate Centers

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# Spring Flood Outlook 2022

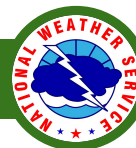
Percent of Normal Precipitation (%)  
11/19/2021 – 2/16/2022



Generated 2/17/2022 at HPRCC using provisional data.

NOAA Regional Climate Centers

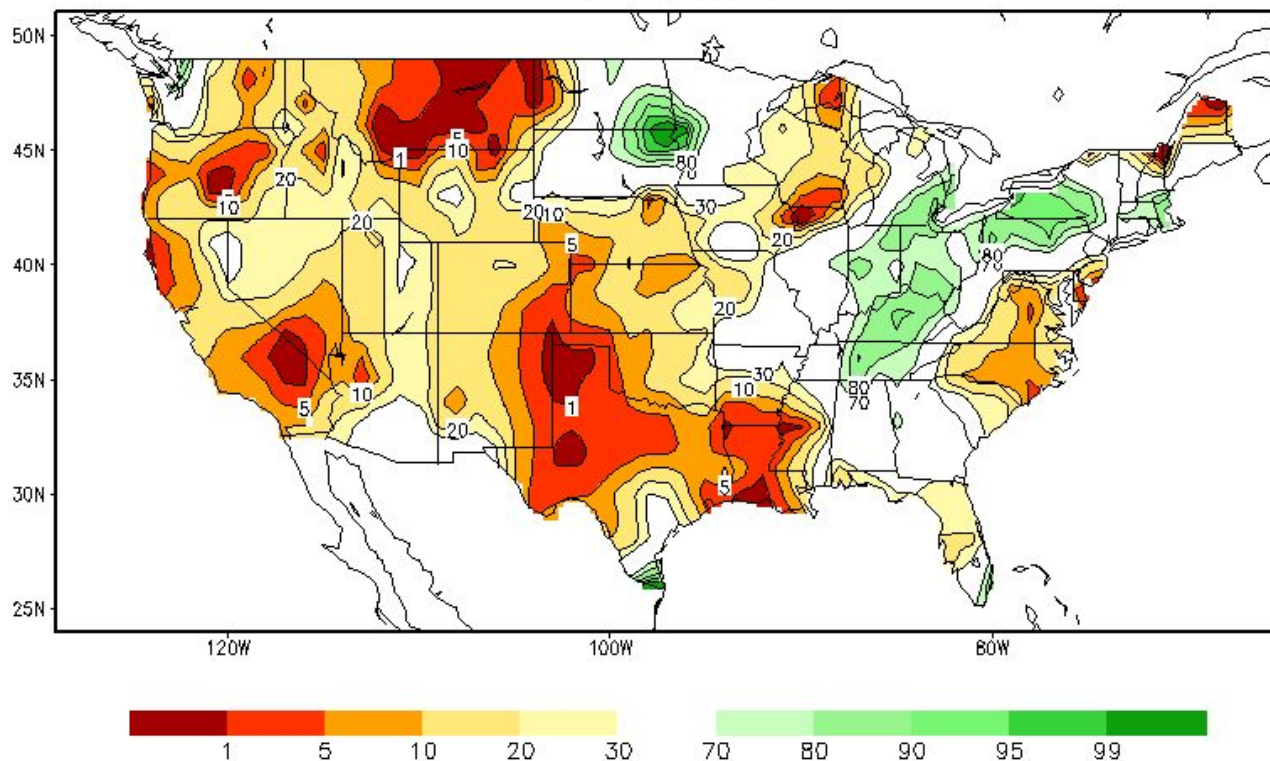
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# Spring Flood Outlook 2022 - Soil Moisture Percentiles

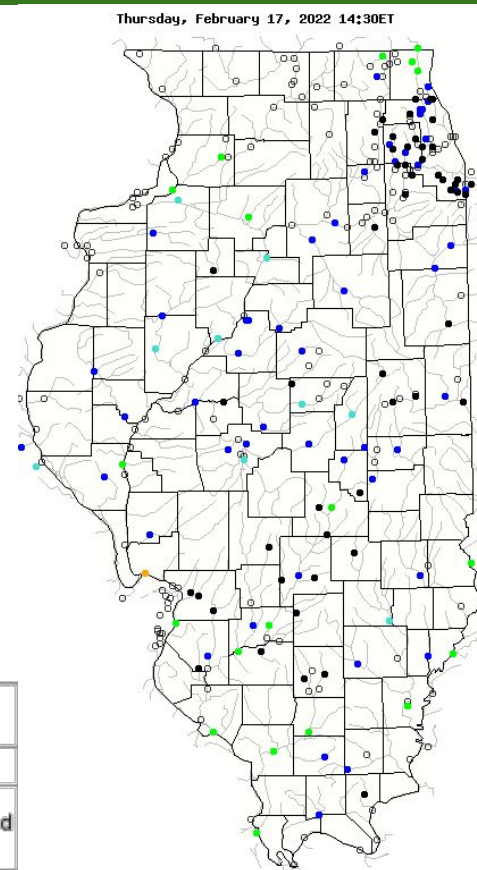
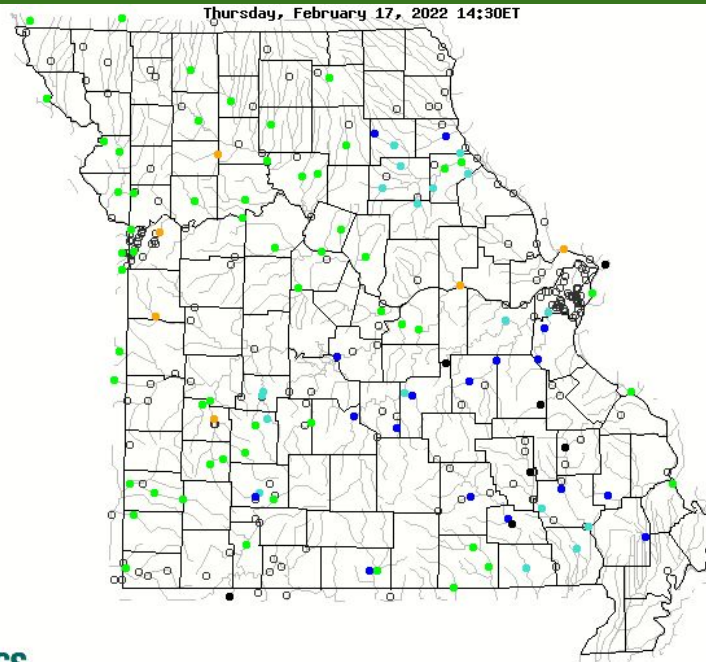
Calculated Soil Moisture Ranking Percentile  
FEB 16, 2022



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# USGS Streamflow Percentiles



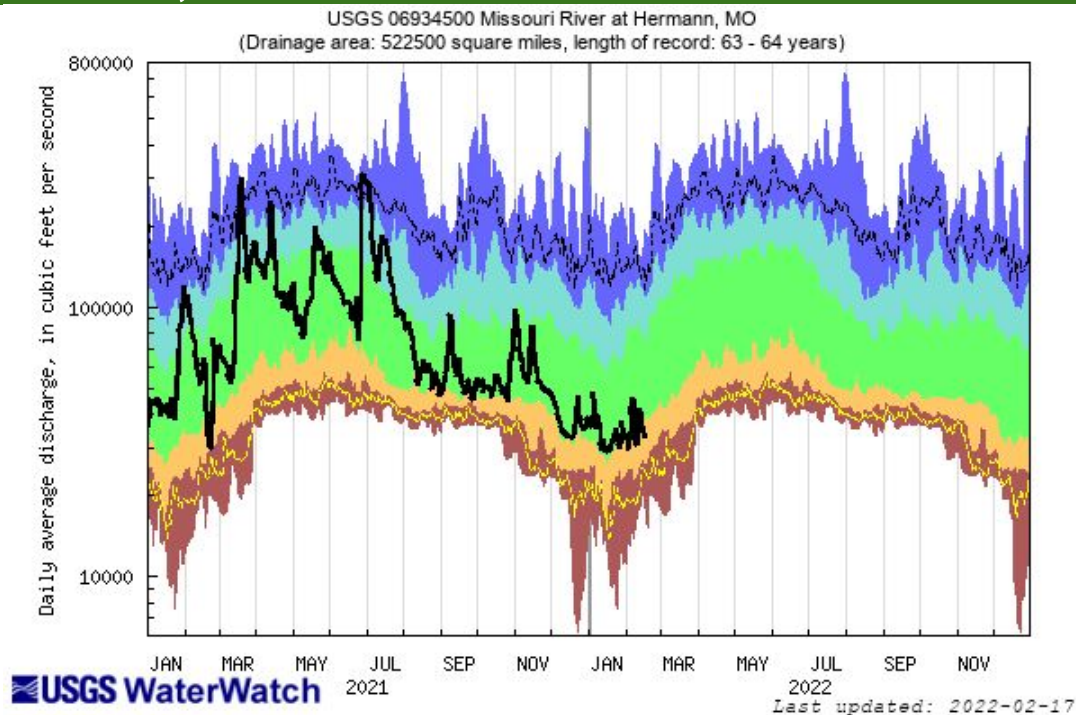
## Explanation - Percentile classes

Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

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# Missouri River at Hermann, MO



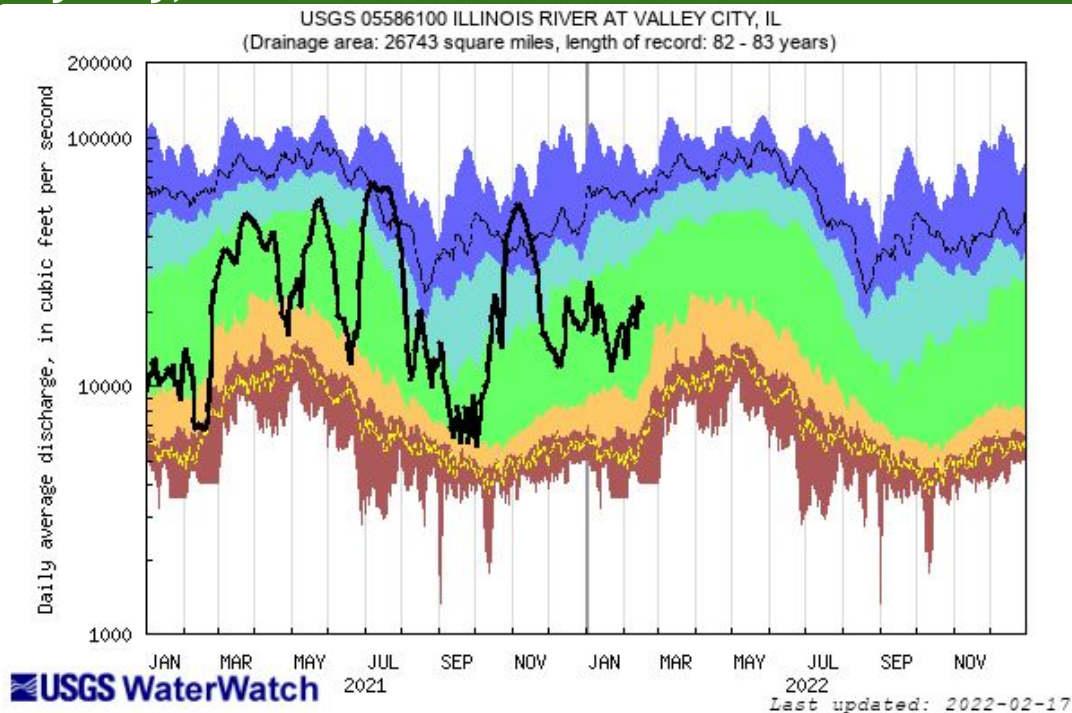
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

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# Illinois River at Valley City, IL

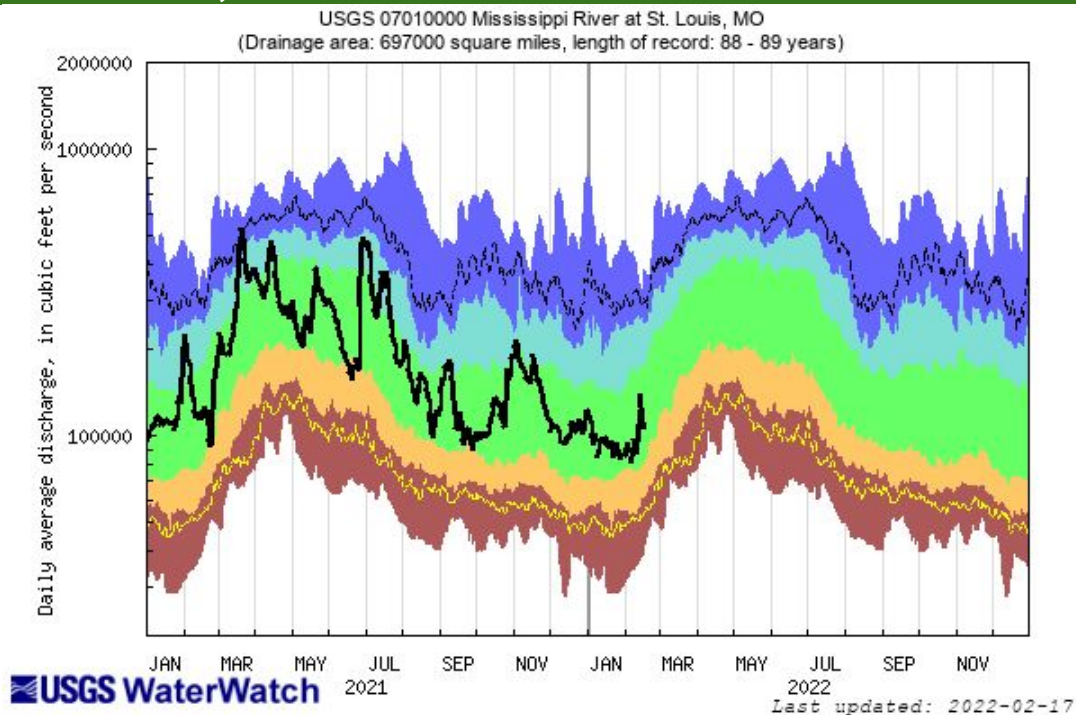


Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		Flow

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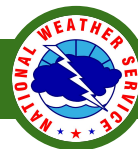


# Mississippi River at St. Louis, MO

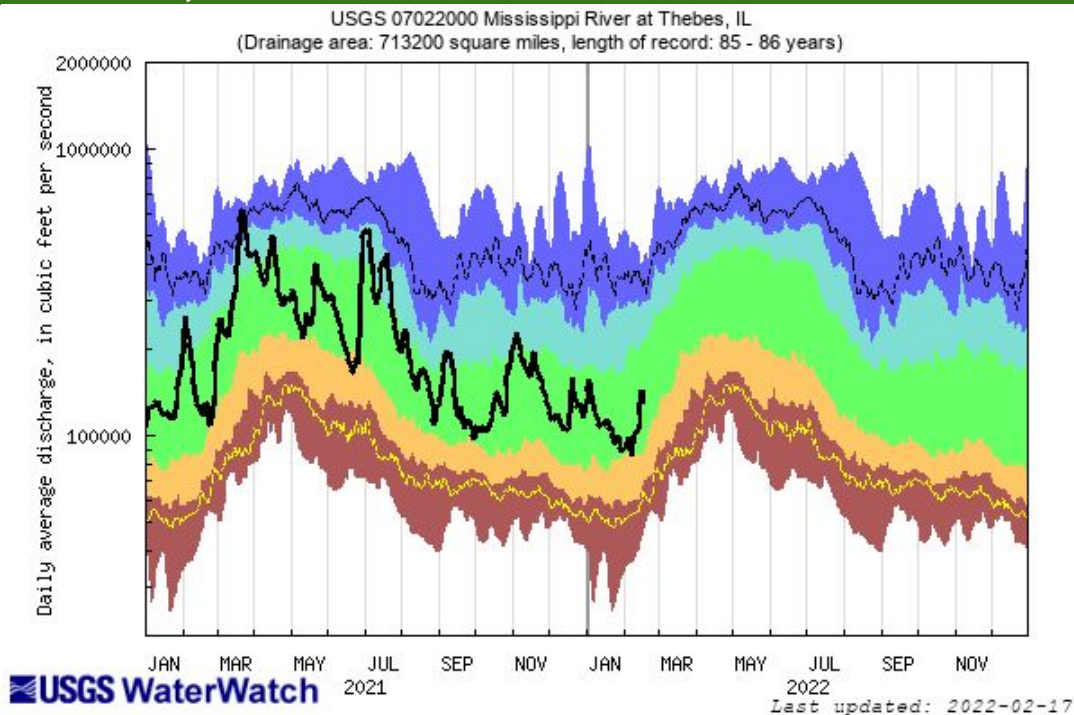


Explanation - Percentile classes							Flow
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest	
Much below Normal	Below normal	Normal	Above normal	Much above normal			

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# Mississippi River at Thebes, MO



Explanation - Percentile classes						
	-----				-----	
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile - highest
Much below Normal	Below normal	Normal	Above normal	Much above normal		
						Flow

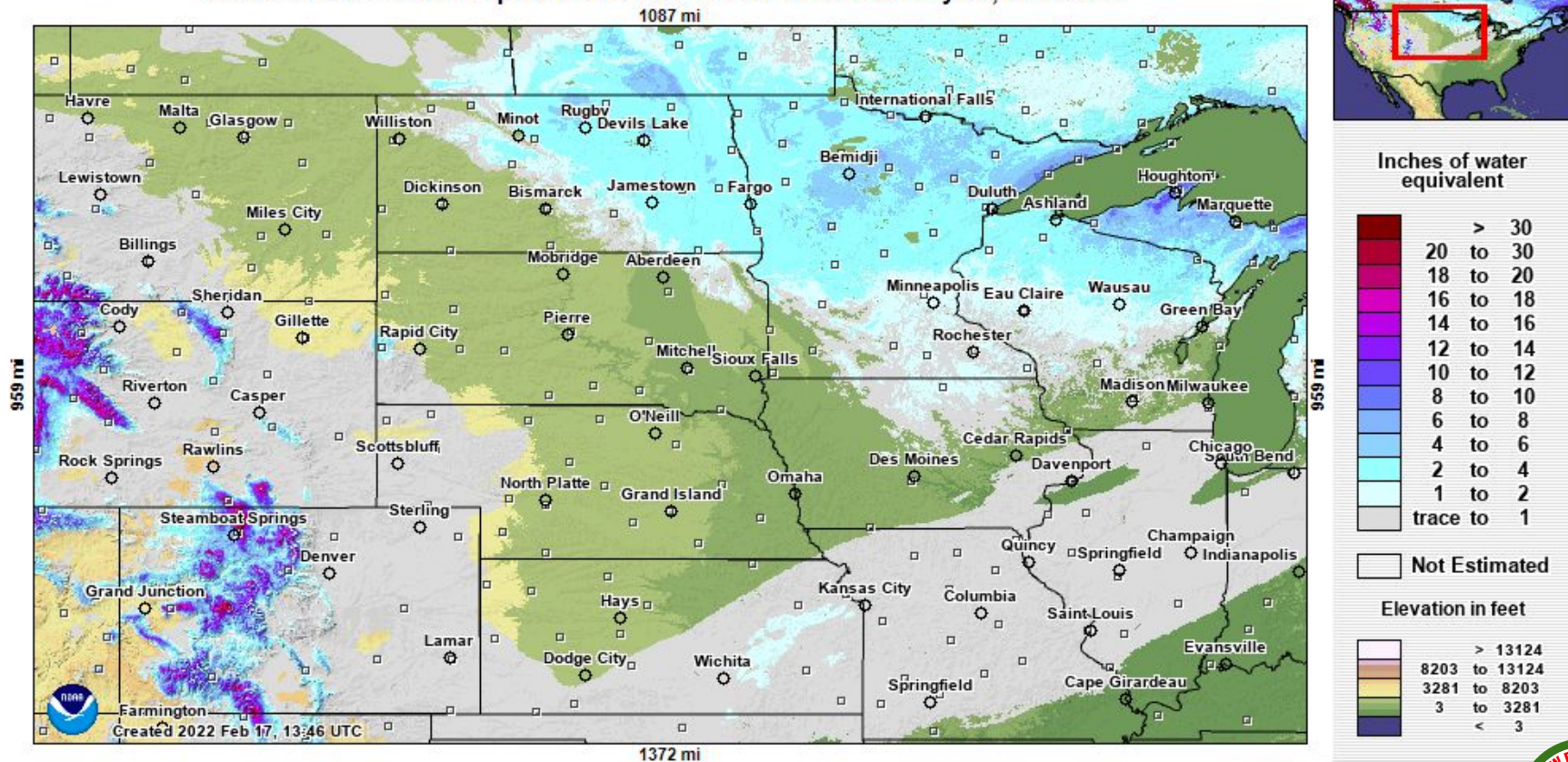
NWS St. Louis





# Spring Flood Outlook 2022

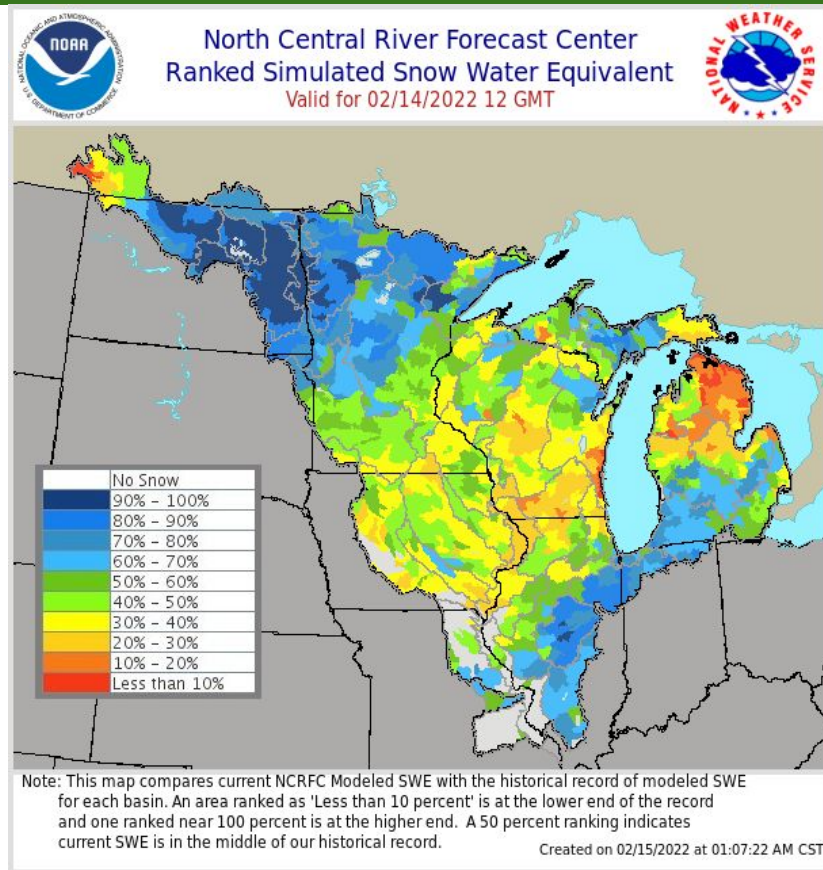
Modeled Snow Water Equivalent forecasted for 2022 February 17, 20:00 UTC



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# Spring Flood Outlook 2020



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# 6-10 Day Temperature Outlook

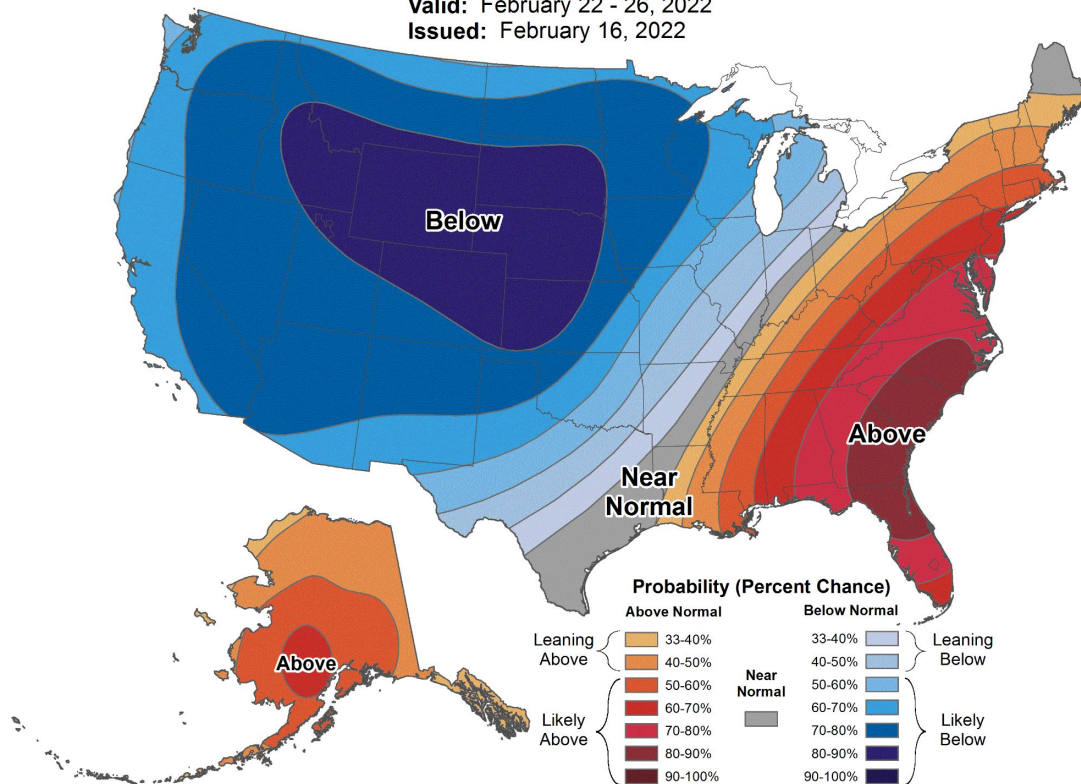


## 6-10 Day Temperature Outlook



Valid: February 22 - 26, 2022

Issued: February 16, 2022



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# 6-10 Day Precipitation Outlook

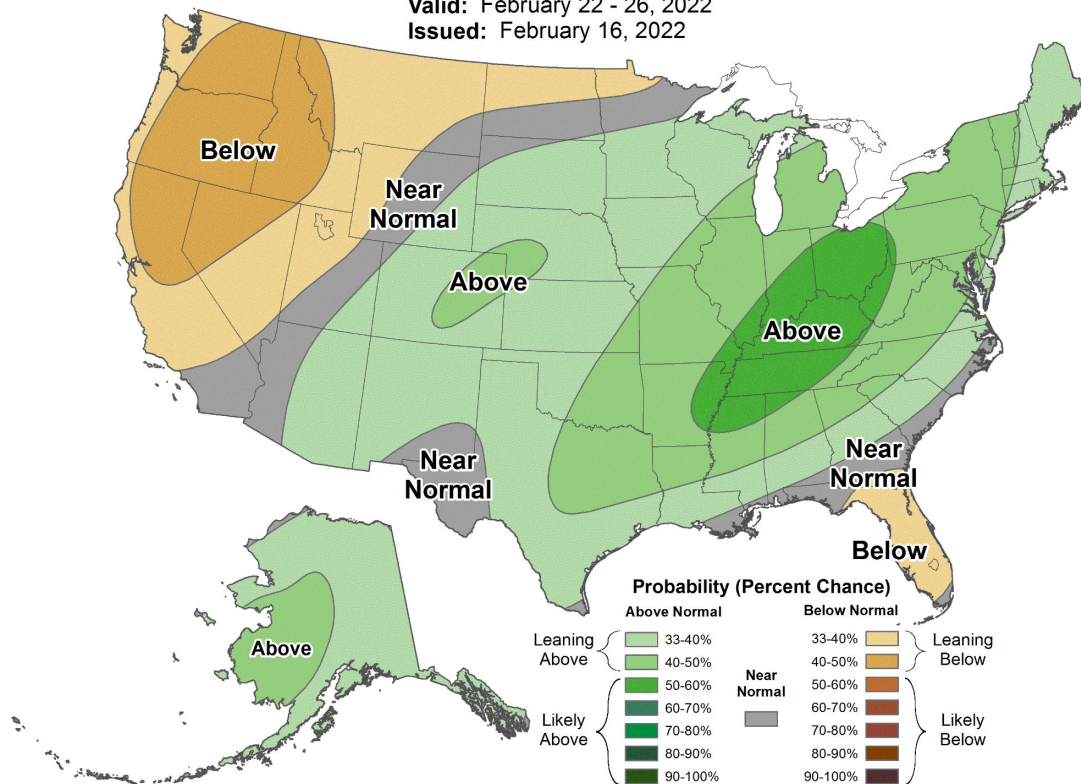


## 6-10 Day Precipitation Outlook



Valid: February 22 - 26, 2022

Issued: February 16, 2022



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# 8-14 Day Temperature Outlook

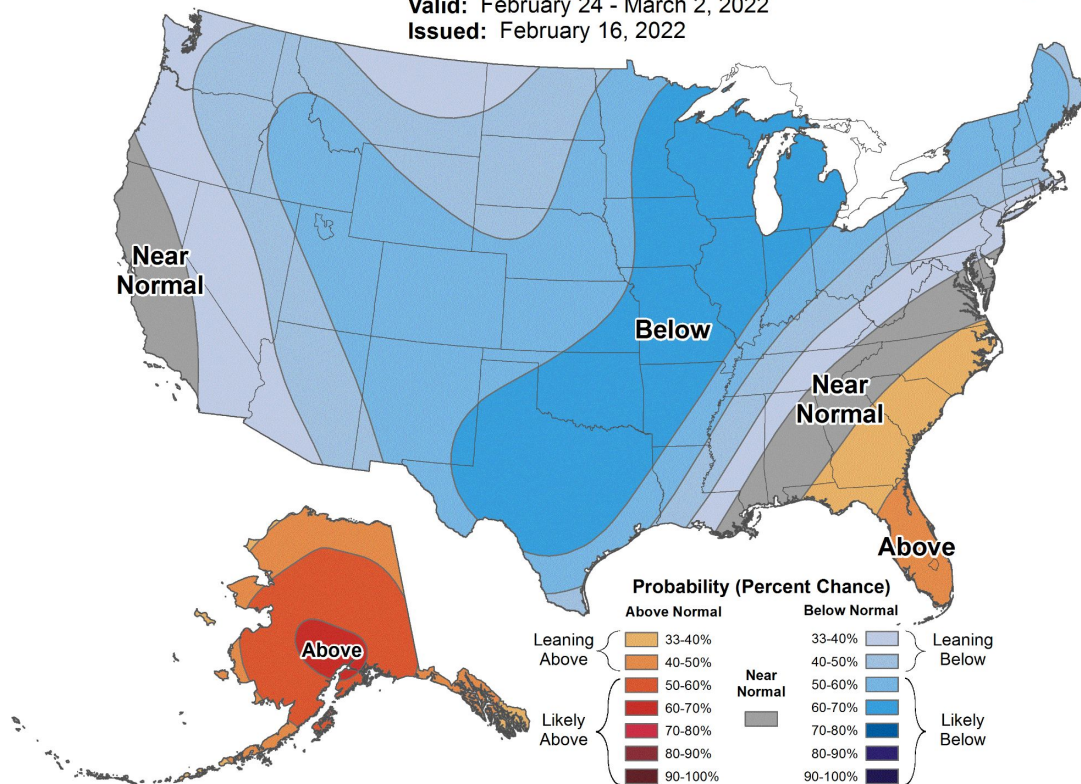


## 8-14 Day Temperature Outlook



Valid: February 24 - March 2, 2022

Issued: February 16, 2022



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# 8-14 Day Precipitation Outlook

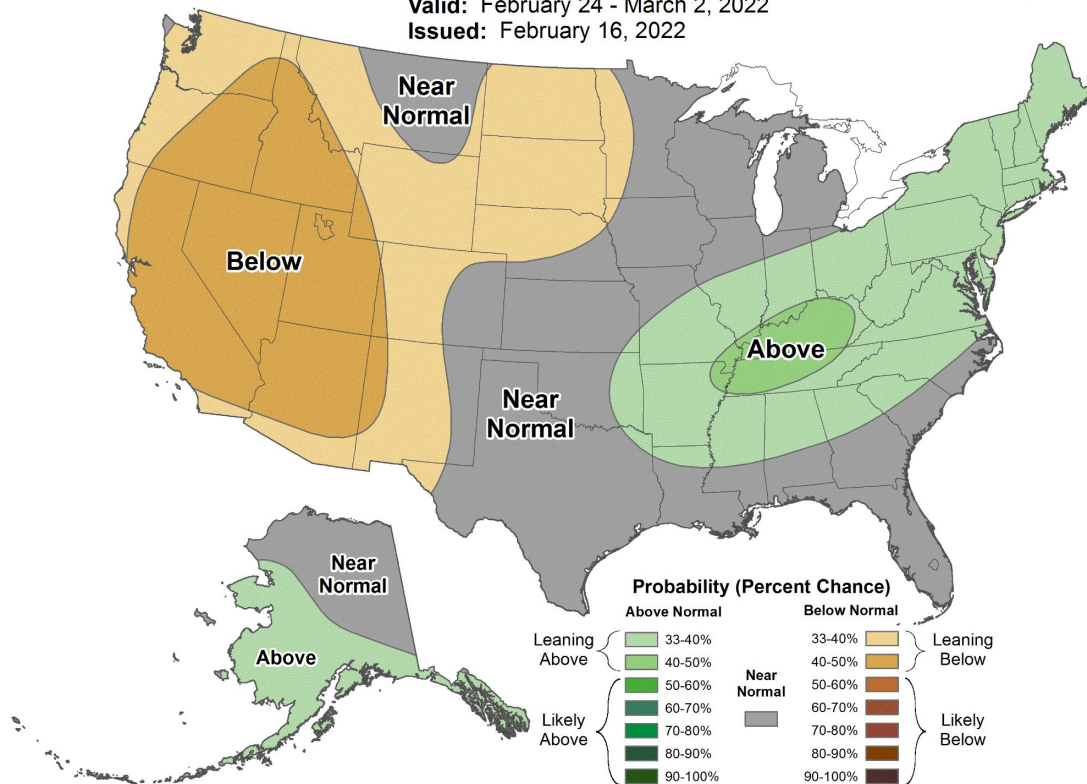


## 8-14 Day Precipitation Outlook

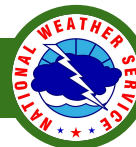


Valid: February 24 - March 2, 2022

Issued: February 16, 2022

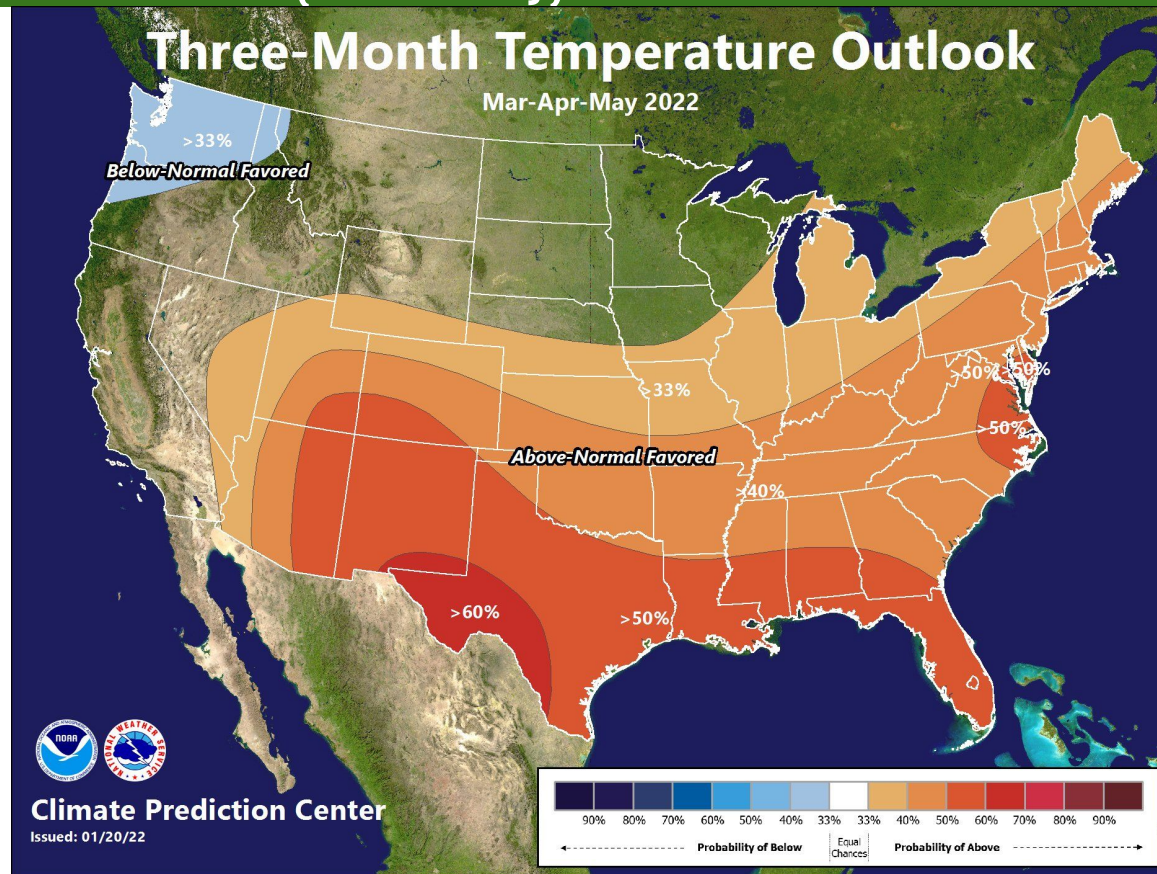


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# 90-Day Temperature Outlook (March-May)

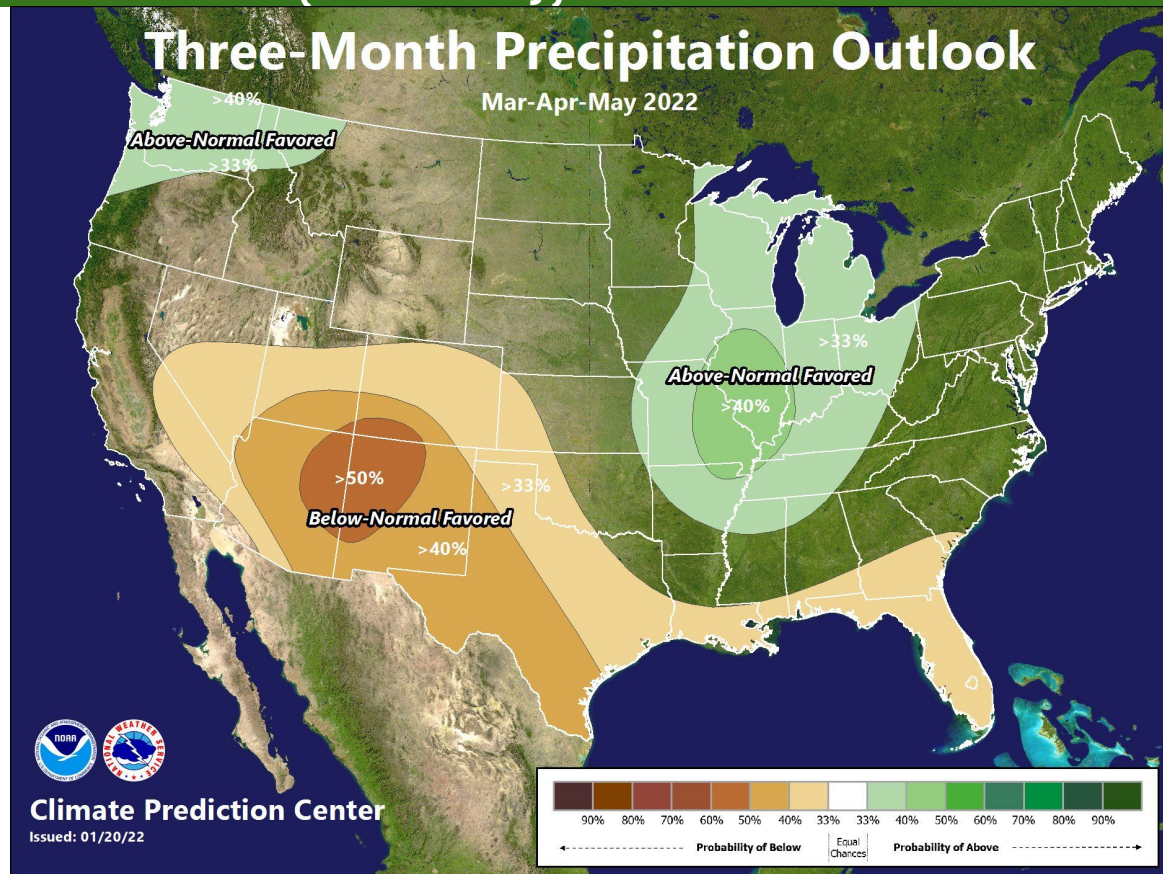


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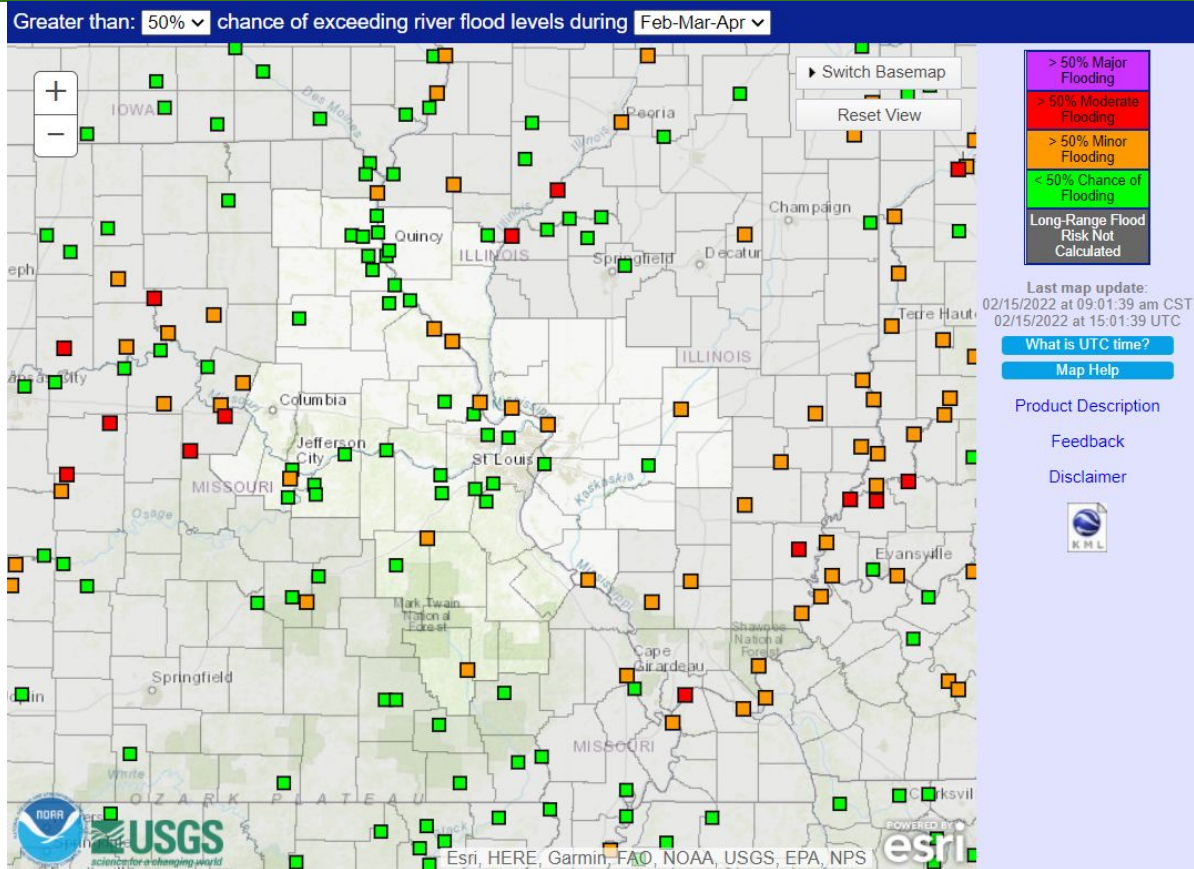
# 90-Day Precipitation Outlook (March-May)



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# Spring Flood Outlook 2022



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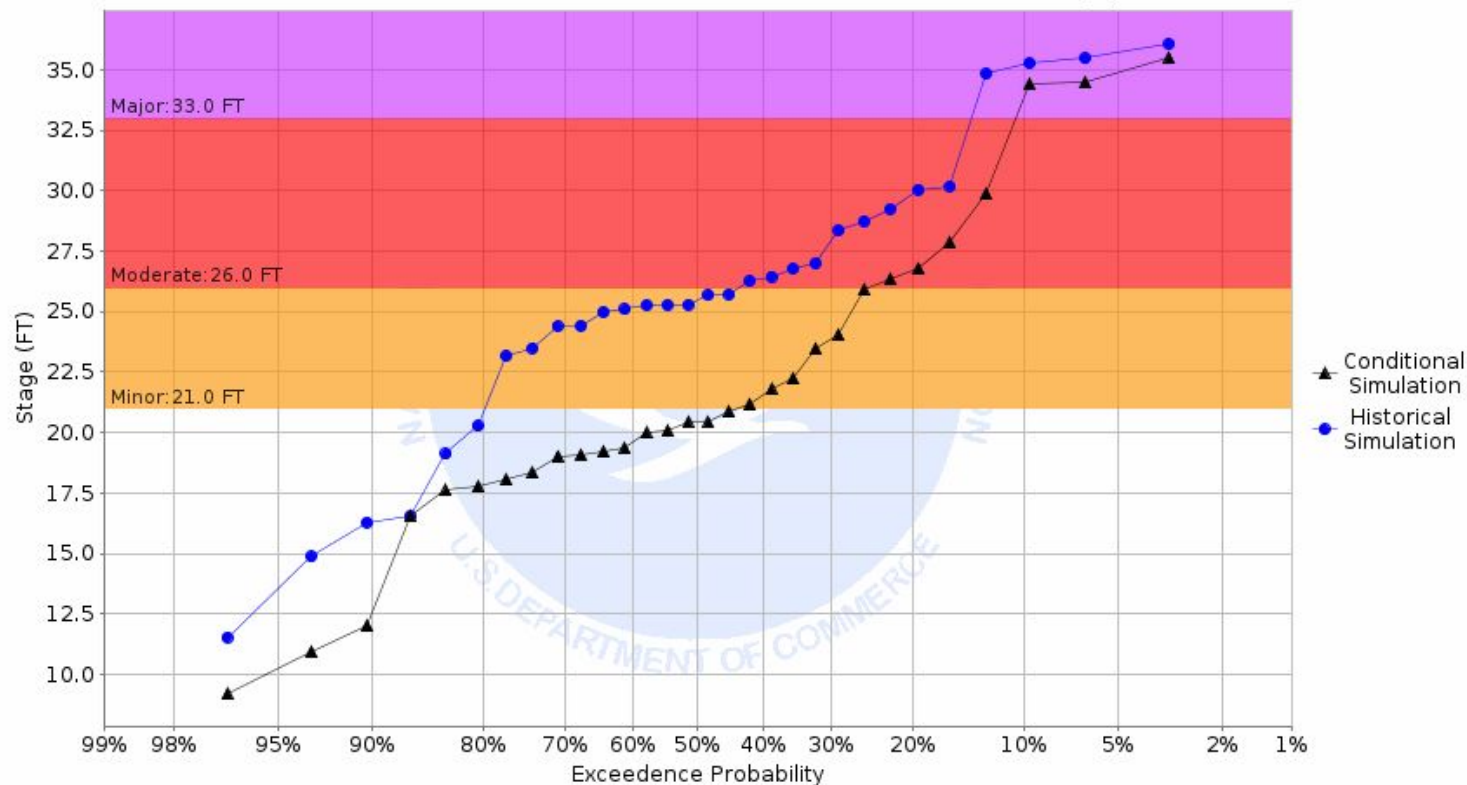


# Spring Flood Outlook 2022 - Missouri River at Hermann, MO

Chance of Exceeding River Stage on the MISSOURI R at HERMANN MO MKC DCP

Forecast for the period 02/12/2022 - 05/13/2022

This is a conditional simulation based on the current conditions as of 02/07/2022



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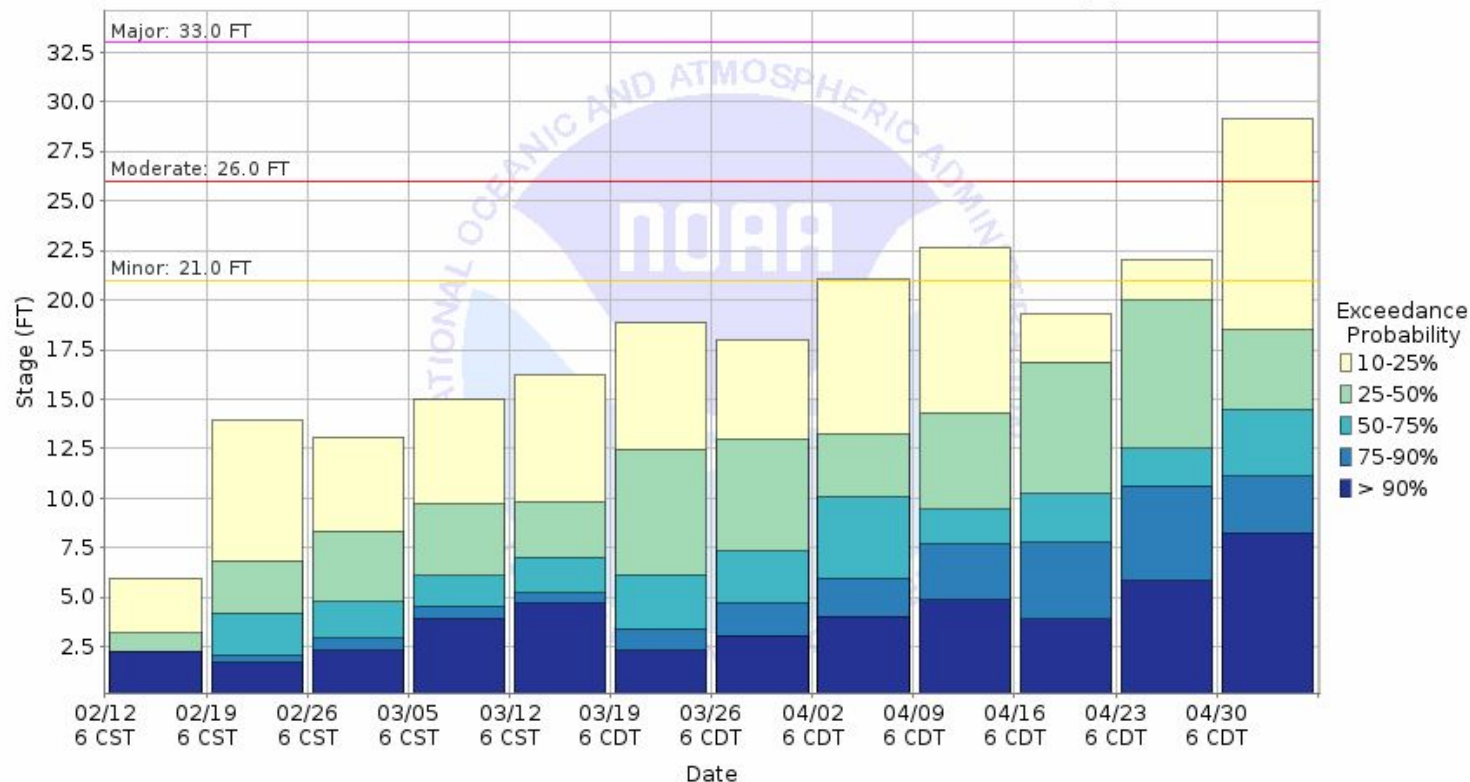


# Spring Flood Outlook 2022 - Missouri River at Hermann, MO

Weekly Chance of Exceeding River Stage on the MISSOURI R at HERMANN MO MKC DCP

Forecast for the period 02/12/2022 - 05/07/2022

This is a conditional simulation based on the current conditions as of 02/07/2022



NWS St. Louis



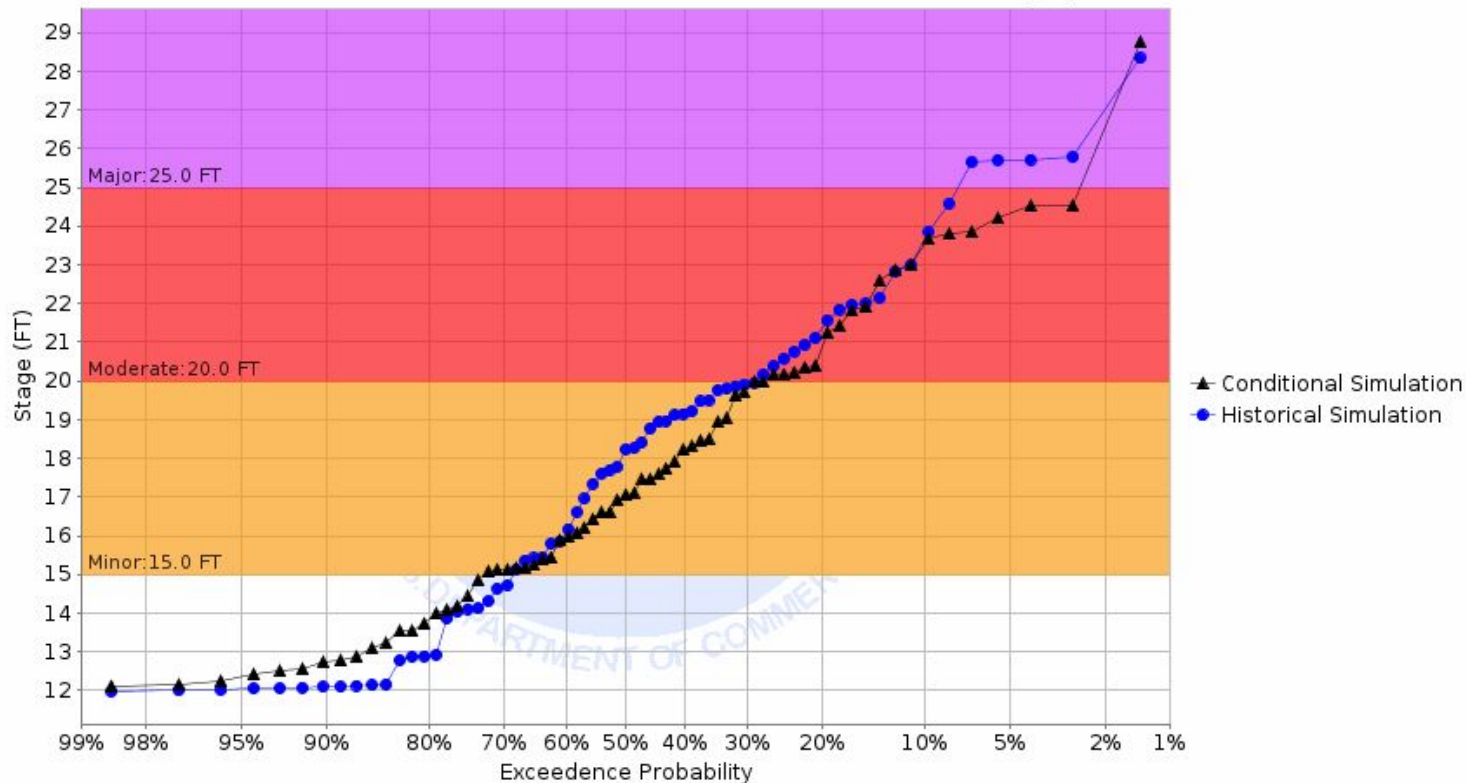


# Spring Flood Outlook 2022 - Mississippi River at Louisiana, MO

Chance of Exceeding River Stage at Mississippi River at Louisiana WTP (LUSM7)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis



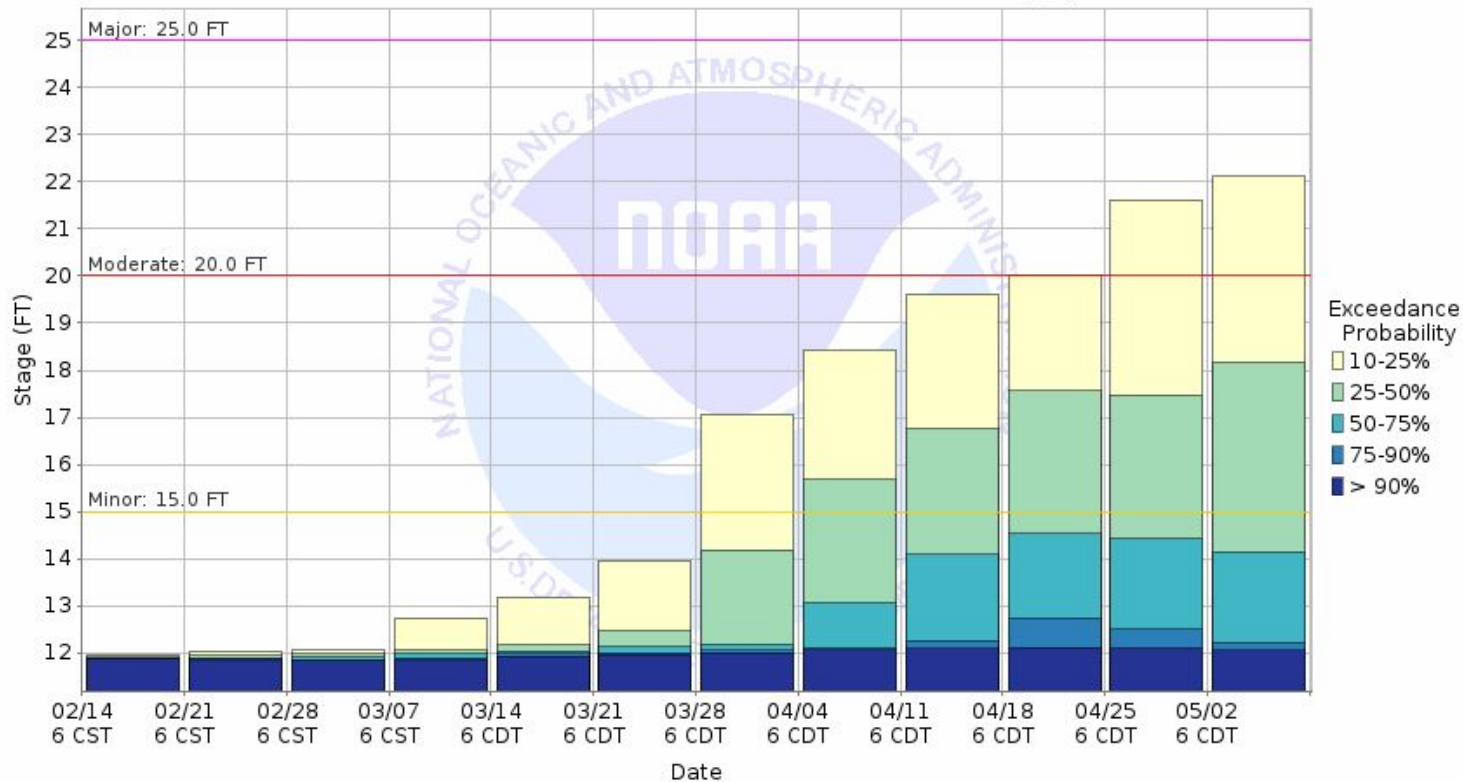


# Spring Flood Outlook 2022 - Mississippi River at Louisiana, MO

Weekly Chance of Exceeding River Stage at Mississippi River at Louisiana WTP (LUSM7)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

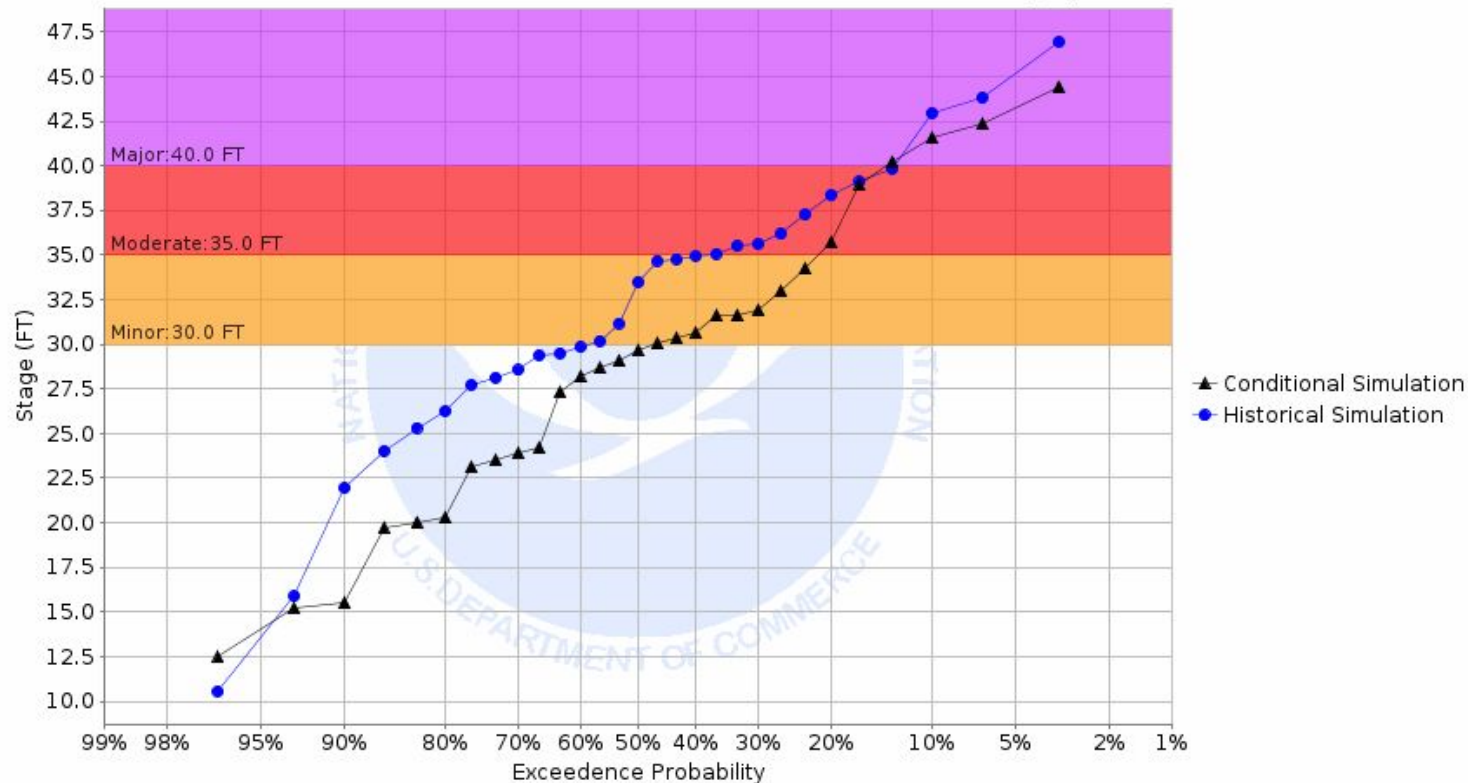


# Spring Flood Outlook 2022 - Mississippi River at St. Louis, MO

Chance of Exceeding River Stage at Mississippi River at St Louis (Eads Bridge) (EADM7)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

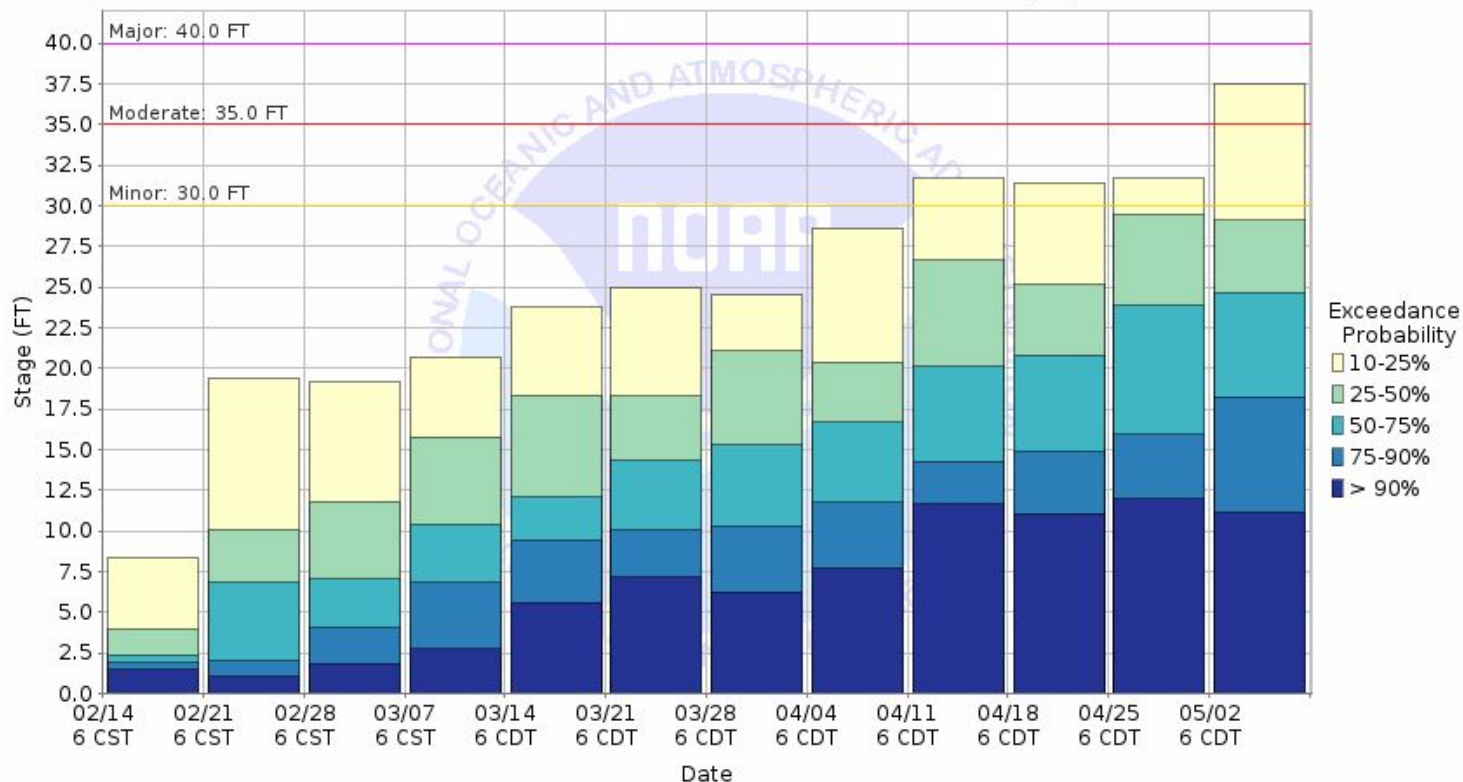


# Spring Flood Outlook 2022 - Mississippi River at St. Louis, MO

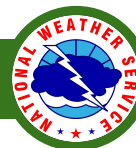
Weekly Chance of Exceeding River Stage at Mississippi River at St Louis (Eads Bridge) (EADM7)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

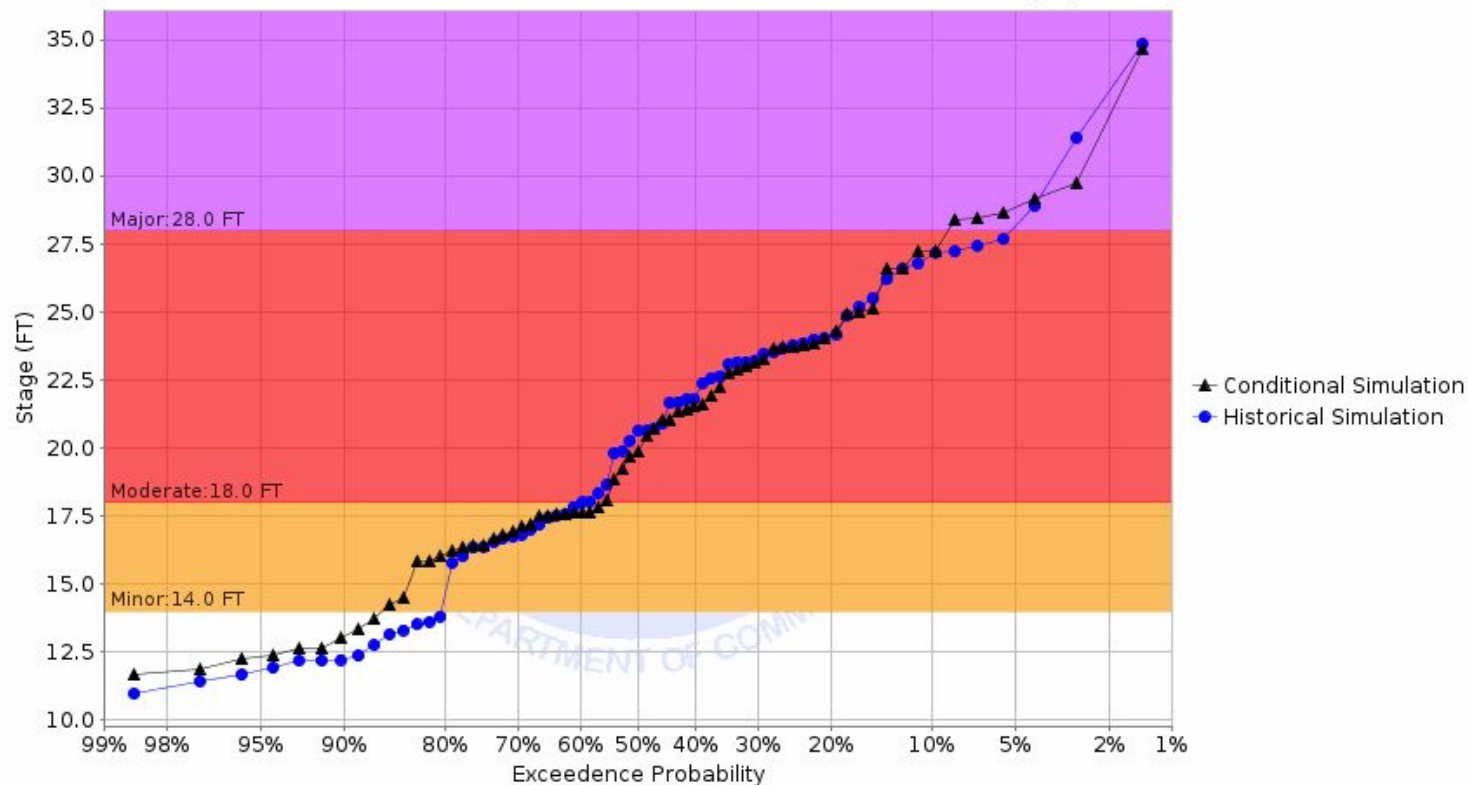


# Spring Flood Outlook 2022 - Illinois River at Beardstown, IL

Chance of Exceeding River Stage at Illinois River at Beardstown (BEA12)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



NWS St. Louis

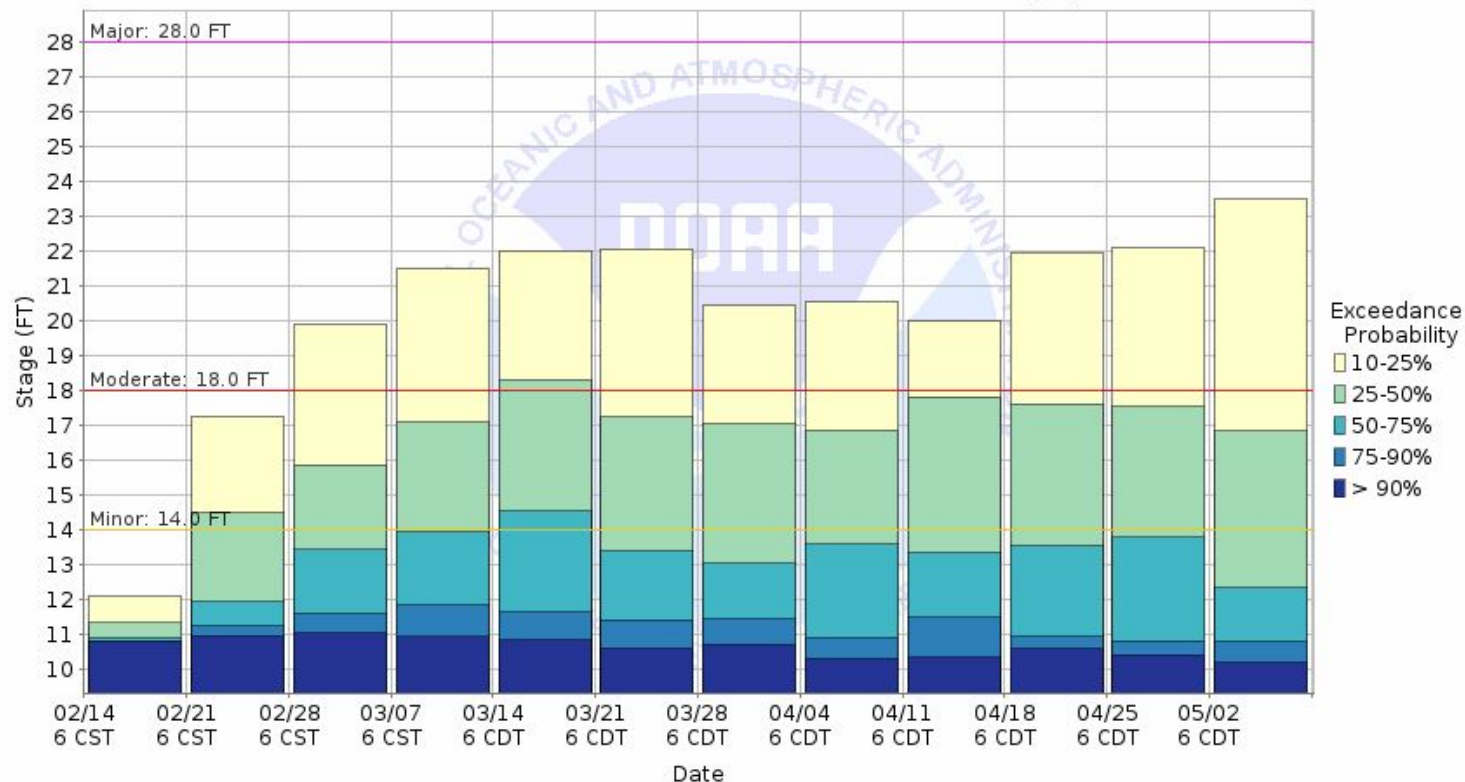


# Spring Flood Outlook 2022 - Illinois River at Beardstown, IL

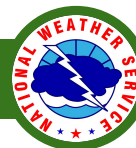
Weekly Chance of Exceeding River Stage at Illinois River at Beardstown (BEA12)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



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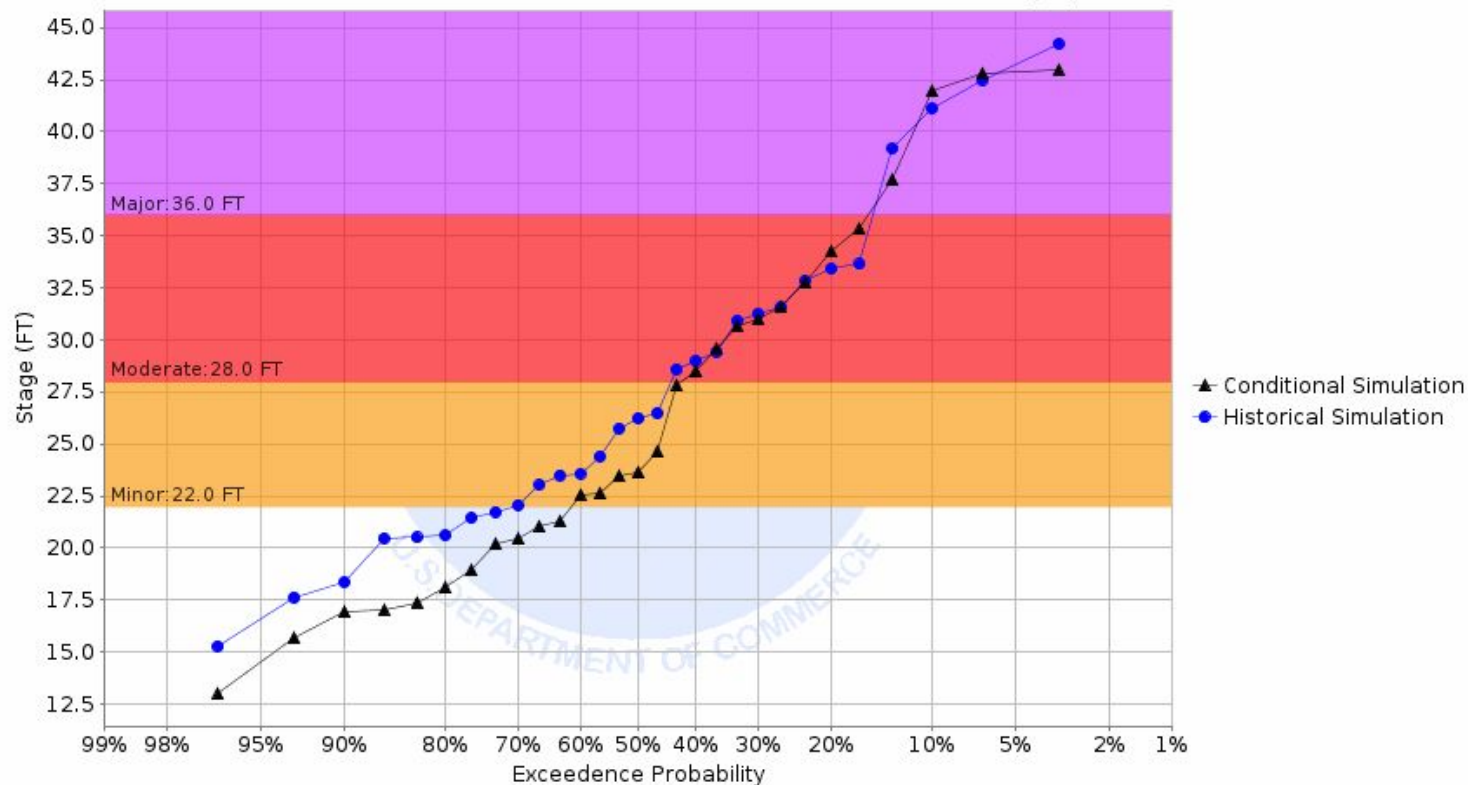


# Spring Flood Outlook 2022 - Big Muddy River at Murphysboro, IL

Chance of Exceeding River Stage at Big Muddy River at Murphysboro 2SW-WWTP & Rte 127 (MURI2)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



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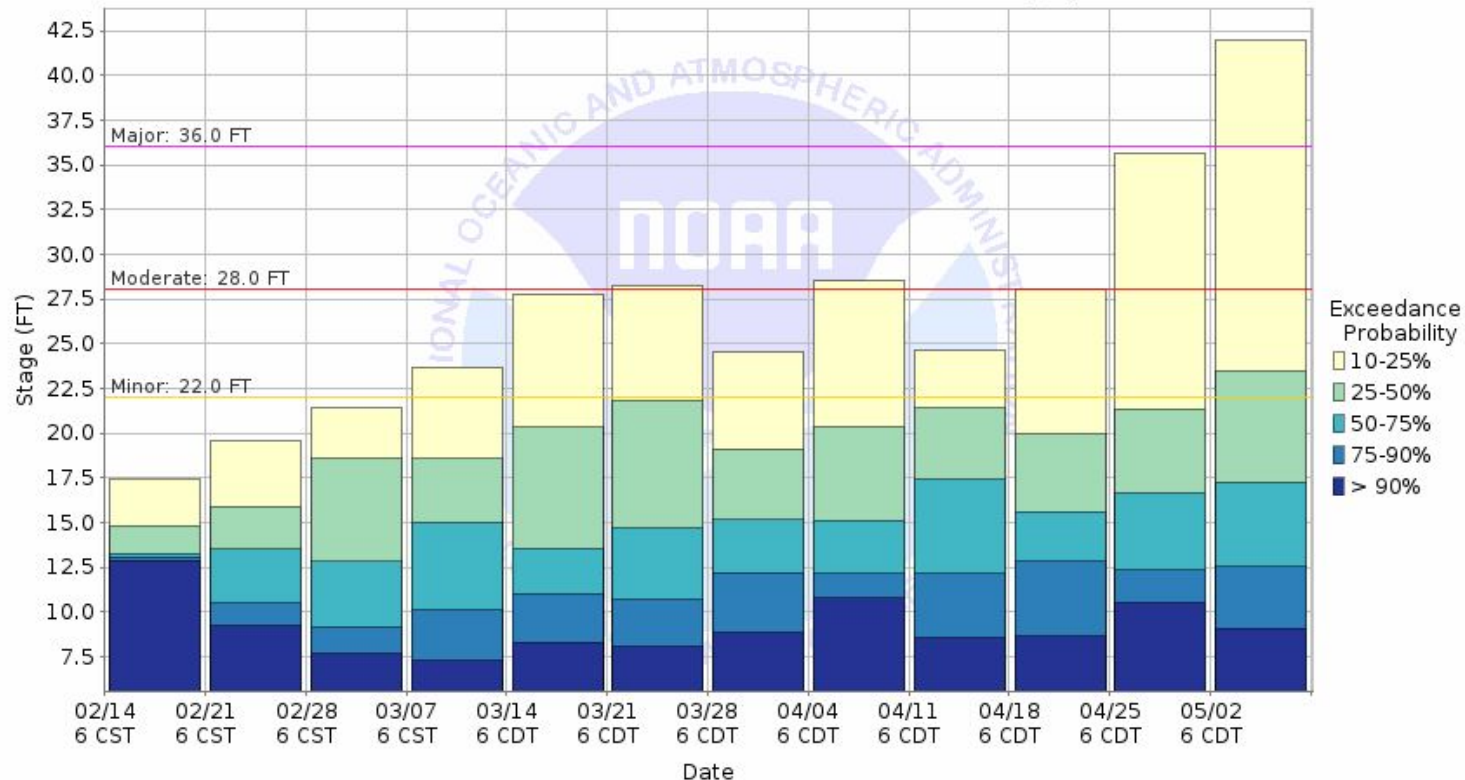


# Spring Flood Outlook 2022 - Big Muddy River at Murphysboro, IL

Weekly Chance of Exceeding River Stage at Big Muddy River at Murphysboro 2SW-WWTP & Rte 127 (MURI2)

Forecast for the period 02/14/2022 - 05/15/2022

This is a conditional simulation based on the conditions as of 02/07/2022



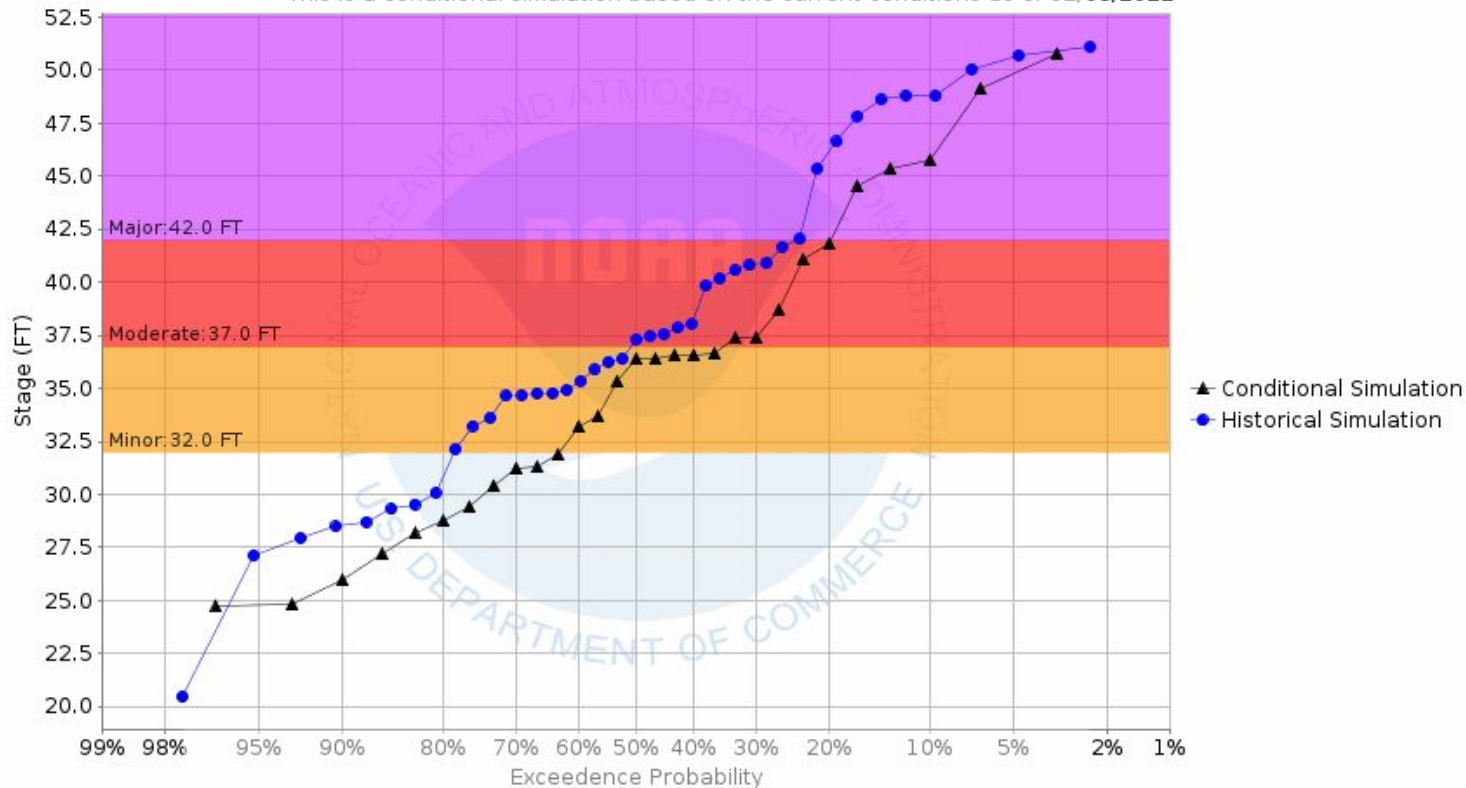
NWS St. Louis



# Spring Flood Outlook 2022 - Mississippi River at Cape Girardeau, IL

Chance of Exceeding River Stage at CPGM7  
Forecast for the period 02/08/2022 - 05/09/2022

This is a conditional simulation based on the current conditions as of 02/08/2022



NWS St. Louis

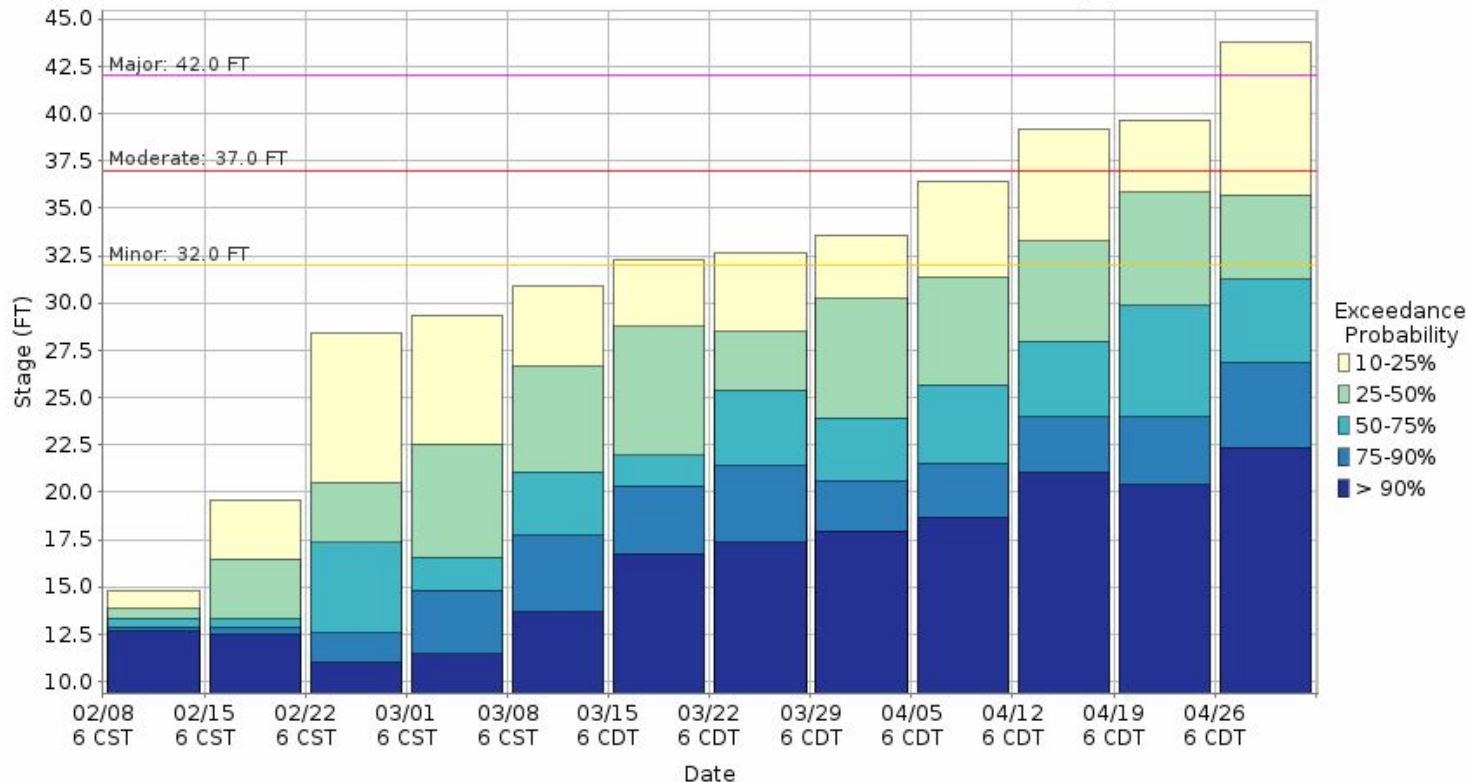


# Spring Flood Outlook 2022 - Mississippi River at Cape Girardeau, IL

Weekly Chance of Exceeding River Stage at CPGM7

Forecast for the period 02/08/2022 - 05/09/2022

This is a conditional simulation based on the current conditions as of 02/08/2022



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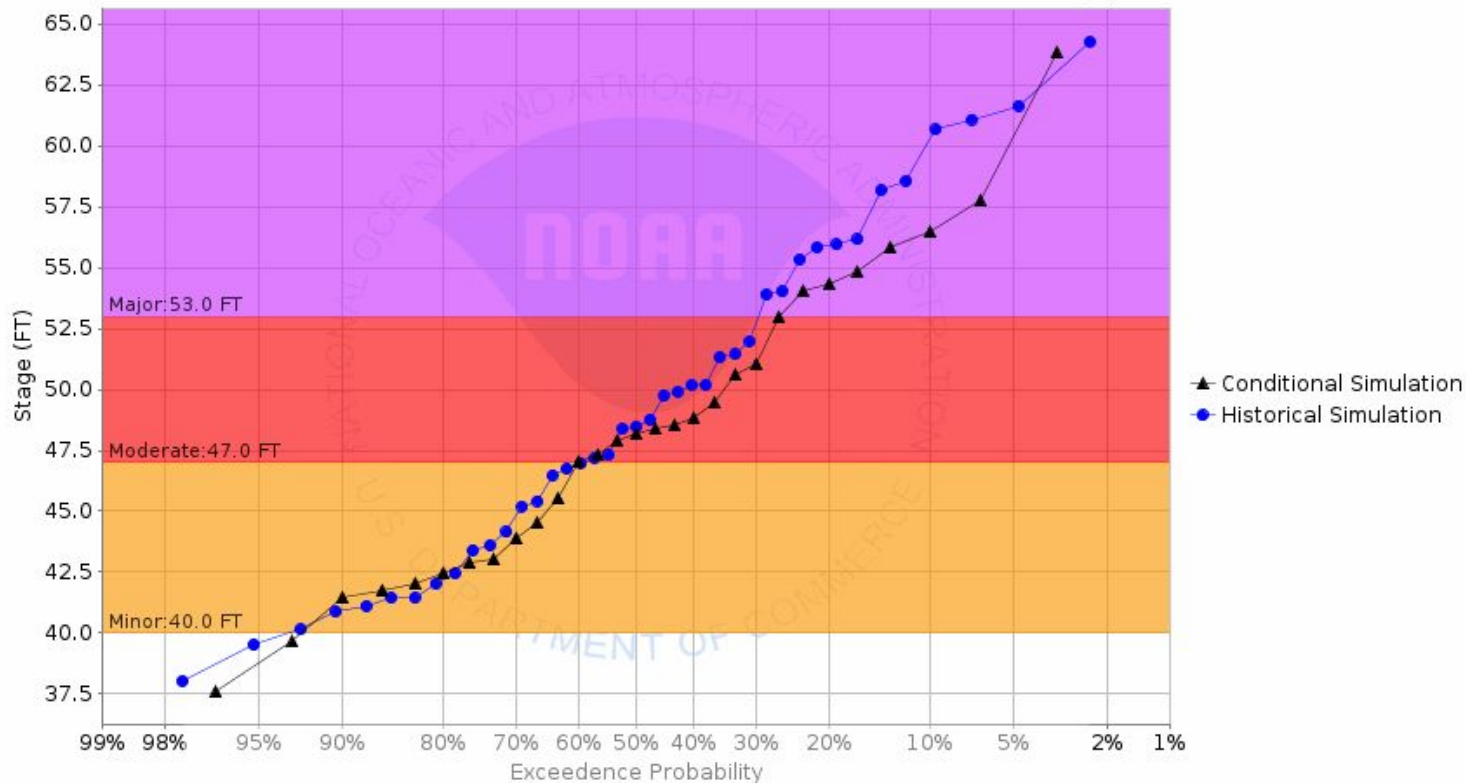




# Spring Flood Outlook 2022 - Ohio River at Cairo, IL

Chance of Exceeding River Stage at CIRI2  
Forecast for the period 02/08/2022 - 05/09/2022

This is a conditional simulation based on the current conditions as of 02/08/2022



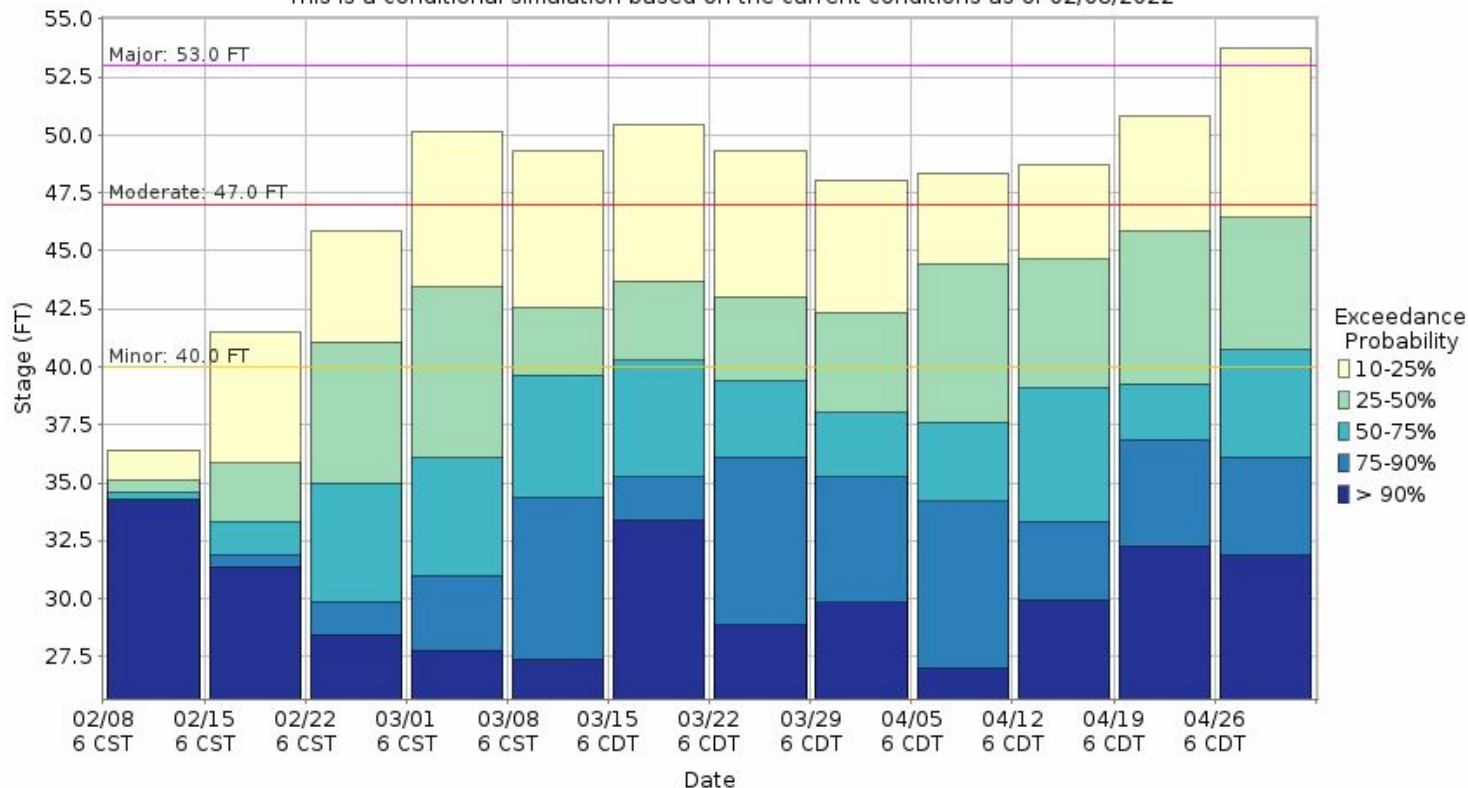
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# Spring Flood Outlook 2022 - Ohio River at Cairo, IL

Weekly Chance of Exceeding River Stage at CIRI2  
Forecast for the period 02/08/2022 - 05/09/2022

This is a conditional simulation based on the current conditions as of 02/08/2022



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How confident should we be in this forecast?

[http://www.weather.gov/crh/rfc\\_ensemble](http://www.weather.gov/crh/rfc_ensemble)

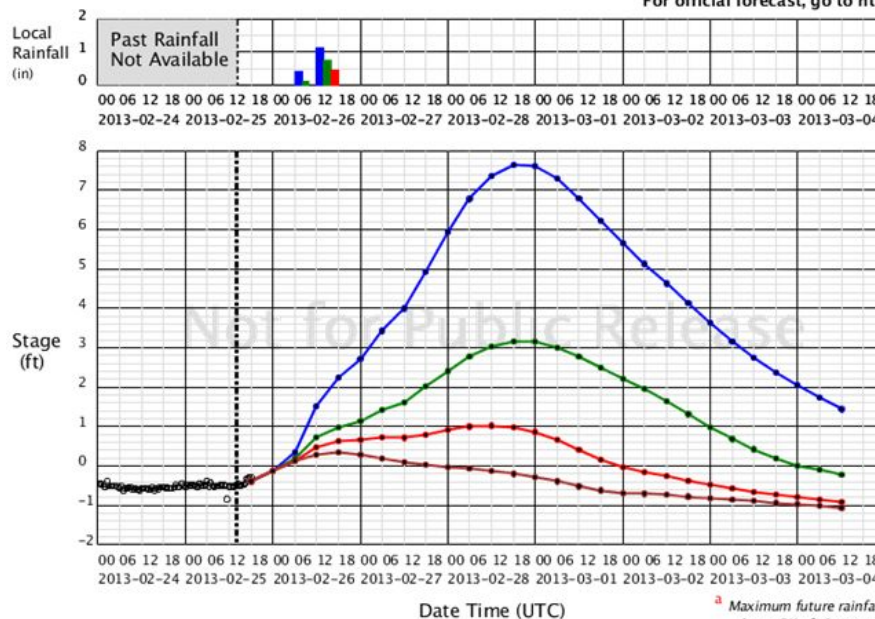
# Spring Flood Outlook 2022 - Contingency/Ensemble Forecasts 24 hours QPF

## Preliminary River Model Output – Use with Caution

NCRFC Ensemble Model Output  
EADM7 -- Mississippi River -- St Louis (Eads Bridge), MO

This product has not been reviewed by NWS Forecasters

For official forecast, go to <http://water.weather.gov/ahps>



### River Model Output with 24 hrs Future Rainfall

- <sup>a</sup> Maximum Future Rainfall (24 hour)
- <sup>b</sup> Best Estimate Future Rainfall (24 hour)
- <sup>c</sup> Minimum Future Rainfall (24 hour)
- Zero Future Rainfall (24 hour)

••••• Observed Values

Major Stage = 40 ft.  
Moderate Stage = 35 ft.  
Minor Stage = 30 ft.  
Flood Stage = 30 ft.

<sup>a</sup> Maximum future rainfall – 95th percentile, or the amount of precipitation has a 5% of chance of being reached/exceeded.

<sup>b</sup> Best estimate future rainfall – 50th percentile, or the amount of precipit having a 50% chance of being reached/exceeded.

Graph Creation Date: Mon, 25 Feb 2013 18:10:45 +0000 UTC

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# Spring Flood Outlook 2022 - Contingency/Ensemble Forecasts 72 hours of QPF

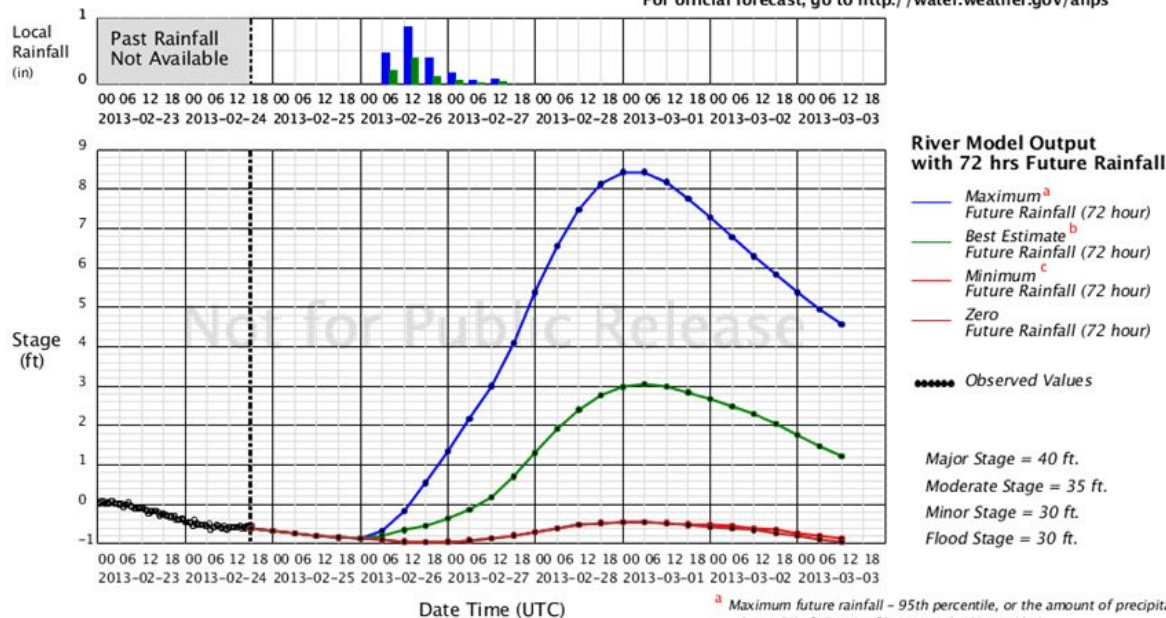
## Preliminary River Model Output – Use with Caution

NCRFC Ensemble Model Output

This product has not been reviewed by NWS Forecasters

EADM7 -- Mississippi River -- St Louis (Eads Bridge), MO

For official forecast, go to <http://water.weather.gov/ahps>

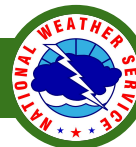


Graph Creation Date: Sun, 24 Feb 2013 18:30:46 +0000 UTC

<sup>a</sup> Maximum future rainfall – 95th percentile, or the amount of precipitation has a 5% of chance of being reached/exceeded.

<sup>b</sup> Best estimate future rainfall – 50th percentile, or the amount of precipitation having a 50% chance of being reached/exceeded.

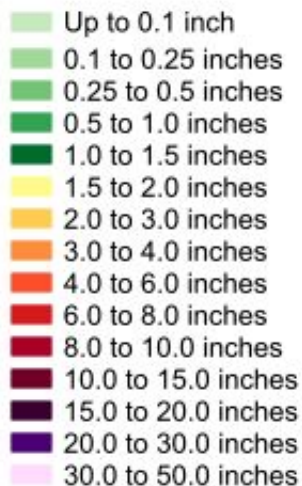
NWS St. Louis





# Observed Precipitation

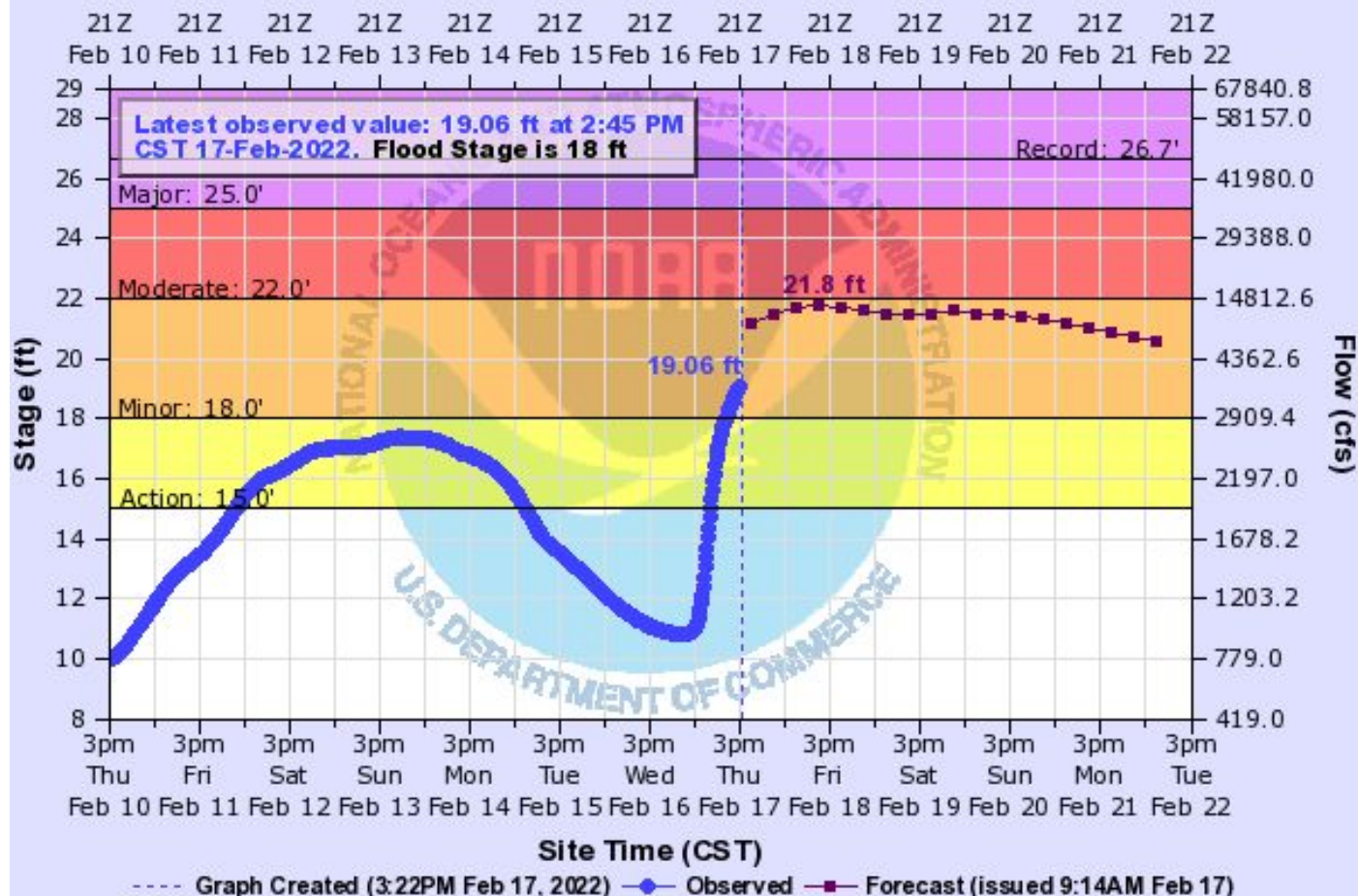
Valid Ending Thursday February 17th, 2022 at 2 PM CST



Graphic Created  
February 17th, 2022  
2:40 PM CST

# LITTLE WABASH RIVER BELOW CLAY CITY

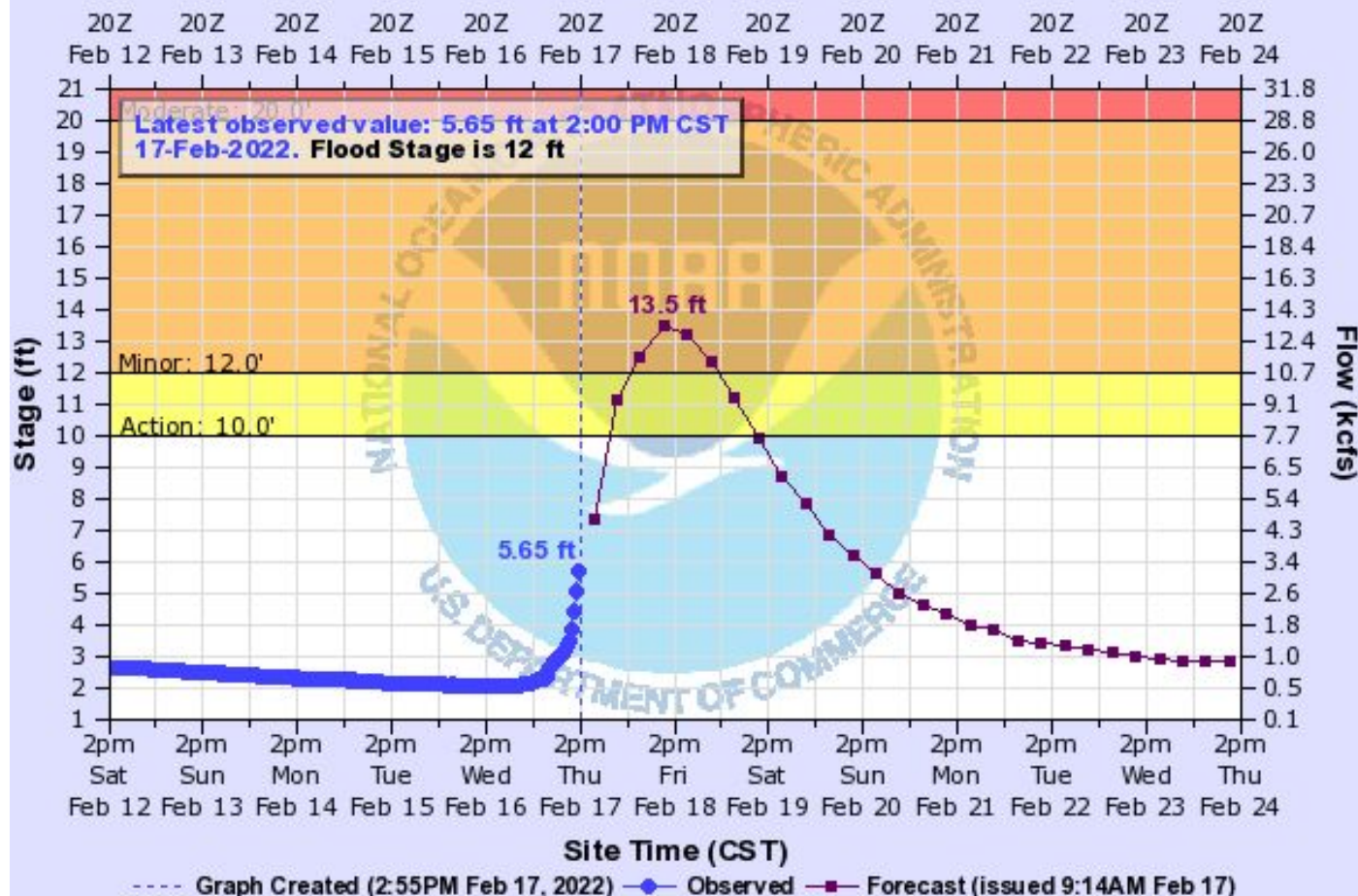
Universal Time (UTC)





# MERAMEC RIVER NEAR STEELVILLE

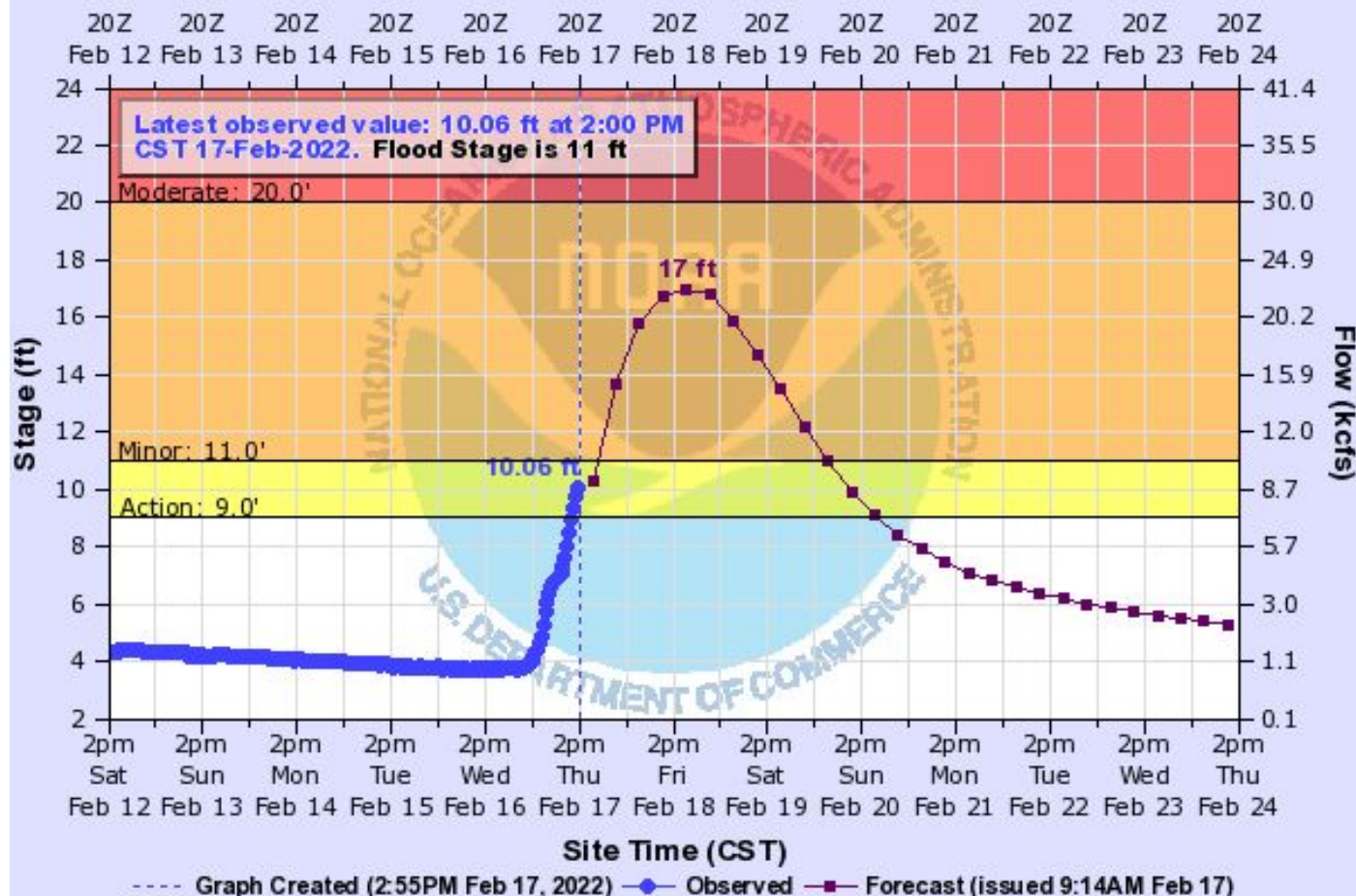
Universal Time (UTC)





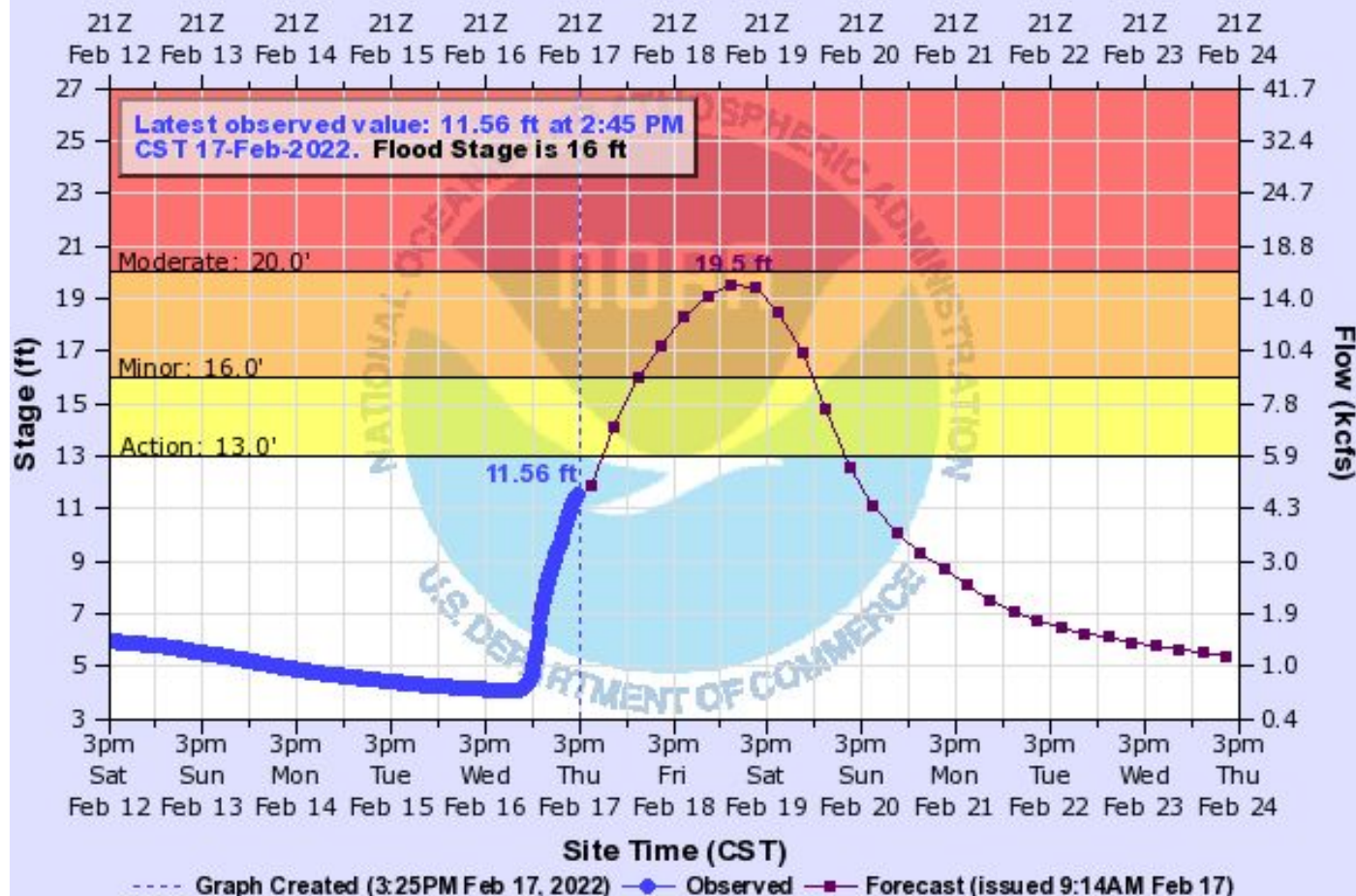
# MERAMEC RIVER NEAR SULLIVAN

Universal Time (UTC)



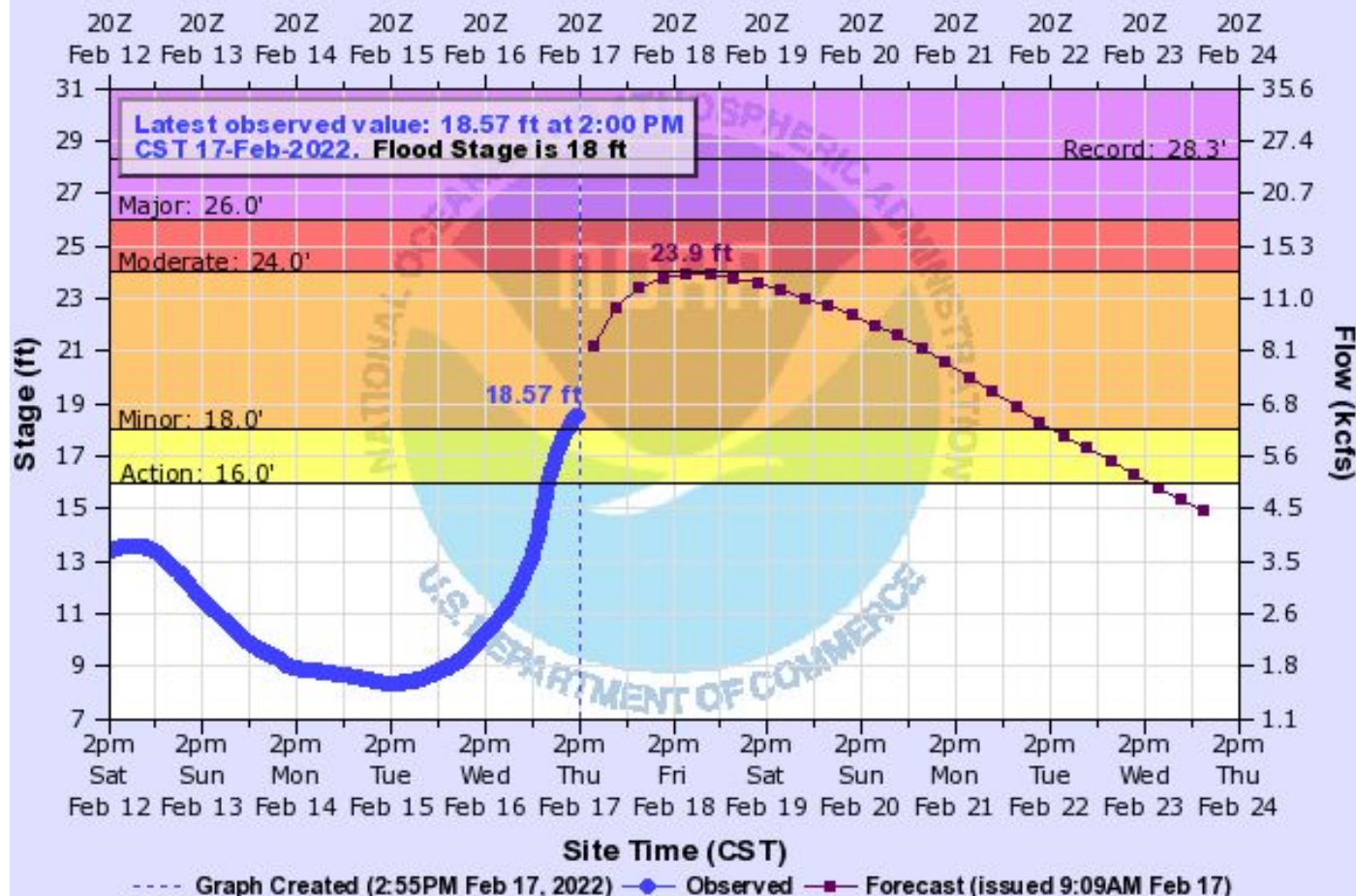
# BIG RIVER AT BYRNESVILLE

Universal Time (UTC)



# KASKASKIA RIVER AT VANDALIA

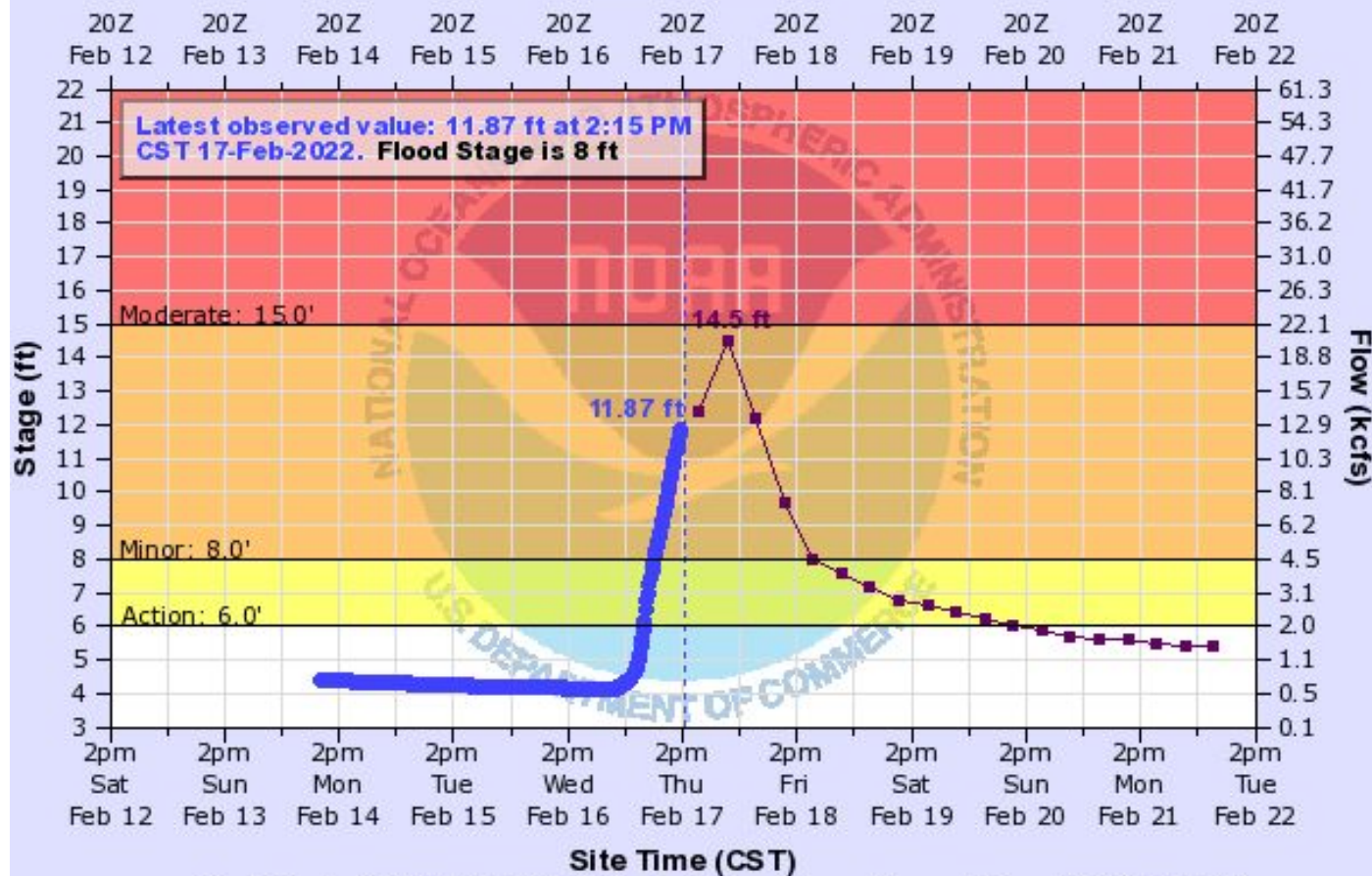
Universal Time (UTC)





# BLACK RIVER NEAR ANNAPOLIS

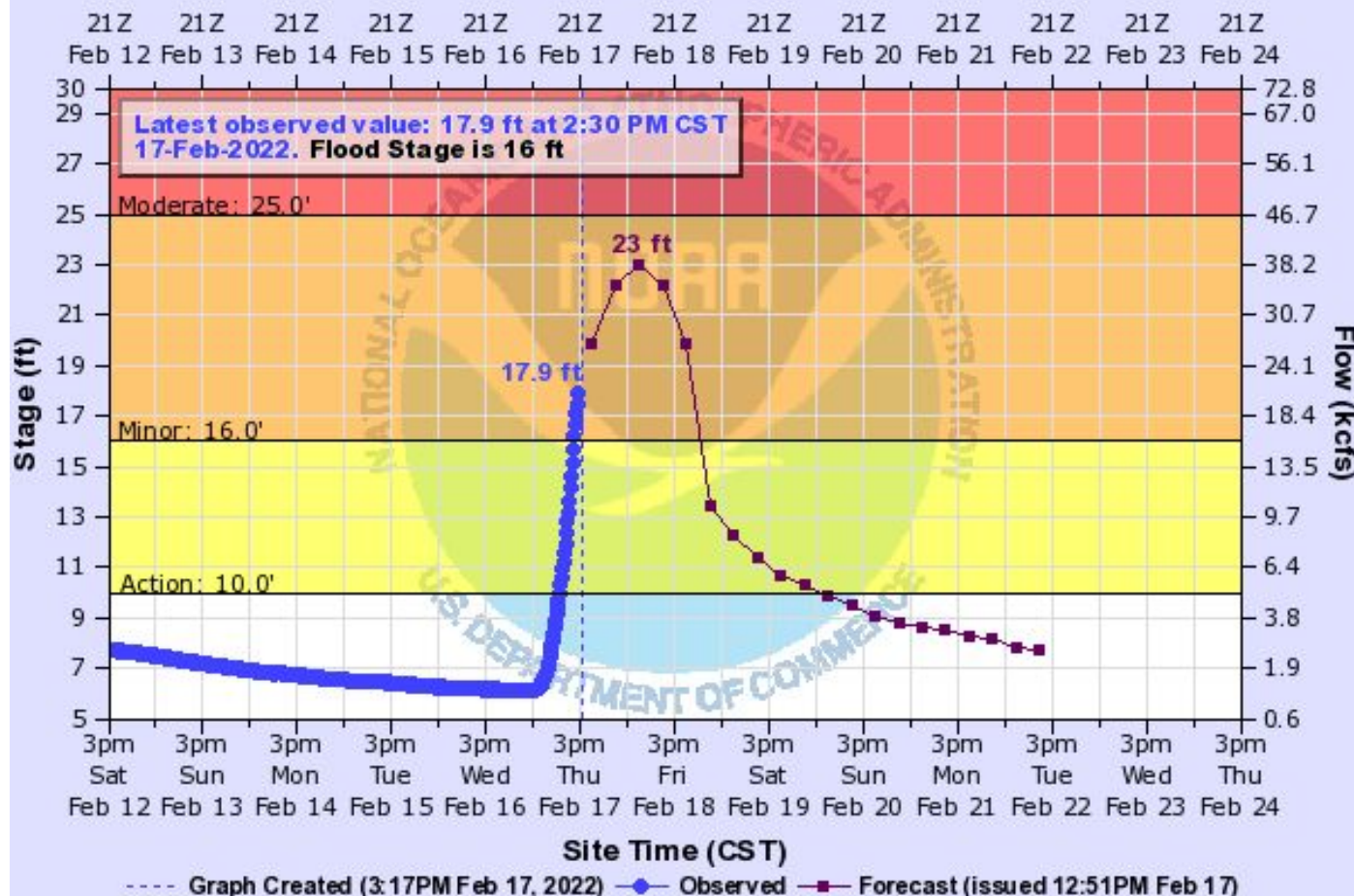
Universal Time (UTC)





# ST. FRANCIS RIVER AT PATTERSON

Universal Time (UTC)



# Questions???

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